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RESEARCH ARTICLE

Are bank risk disclosures informative? Evidence from debt markets

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Abstract

This study examines whether financial reporting with a specific focus on risk disclosures have a predictive (informative) effect on banks' credit ratings (BCRs) and, consequently, ascertains whether governance structures can moderate such an association. Using one of the largest bank-level datasets collected from 12 Middle East and North African (MENA) countries over the 2006–2013 period to-date, our findings are as follows. First, we find that risk disclosures have a predictive effect on BCRs. Second, we find that the relationship between risk disclosures and BCRs is contingent on the quality of governance structures. Specifically, we find that the informativeness of risk disclosures on BCRs is higher in banks with larger board size, greater independence, higher government ownership, and better Shariah supervisory board, but lower in banks with greater block ownership, higher foreign ownership and the presence of CEO duality. The central tenor of our findings remains unchanged after controlling for a number of firm- and country-level factors, alternative risk disclosure measures, firm- and national-level governance proxies, different types of banks, and potential endogeneities. The findings have important implications for investors, especially bondholders, standard-setters, regulators, and central governments.

KEYWORDS

banks' credit ratings, debt markets, financial reporting, governance structures, MENA, risk disclosures

1 | INTRODUCTION

This study seeks to contribute to the existing literature by examining: (a) the predictive effect (informativeness) of financial reporting with specific focus on risk disclosures on banks' credit ratings (BCRs); and (b) consequently ascertains whether governance structures have a moderating effect on the risk disclosures–BCRs nexus using the Middle East and North Africa (MENA) BCRs over the 2006–2013 period.

Meanwhile, the past decade has witnessed a number of corporate crises, including the global financial crisis (GFC), the Eurozone crisis, Chinese stock market crash and several high-profile bank failures around the world

(e.g., Lehman Brothers in the USA, Northern Rock in the UK, and the Dubai Islamic Bank in the UAE). These crises have affected the banking sector worldwide, as well as reignited concerns relating to the effectiveness of financial reporting, risk management and disclosure practices (Basel Committee on Banking Supervision [BCBS], 2015a, 2015b; Beisland, Mersland, & Randøy, 2014; Hasan, 2011; Liu, Padgett, & Varotto, 2017). The GFC, in particular, has stimulated regulators worldwide to focus more closely on pursuing governance and regulatory reforms aimed at enhancing the effectiveness of risk disclosure and governance mechanisms, especially within the banking sector (Barakat & Hussainey, 2013; Iatridis, 2008; Walker, 2009). Similarly, the BCBS suggests that comprehensive and effective risk disclosure practices are central to achieving and maintaining public trust and confidence (Barakat & Hussainey, 2013; BCBS, 2015a, 2015b; Liang, Xu, & Jiraporn, 2013).

Indeed, the Basel Accords (i.e., I, II, and III), international and domestic equivalent accounting standards (e.g., IFRS 7, 9, IAS 32, 39), and governance codes (e.g., World Bank and Saudi governance codes) are often aimed at strengthening the need for comprehensive risk management and disclosure practices. Similarly, identifying, measuring, managing, controlling and, more importantly, reporting and disclosing risks are becoming more critical as the global banking sector becomes increasingly complex and opaque. Generally, the Basel Accords, governance codes and IFRS/IAS concentrate on qualitative and quantitative disclosures regarding credit, liquidity, and market risks (Barakat & Hussainey, 2013; BCBS, 2015b).

The crucial policy question, however, is whether the market considers such Basel, IFRS/IAS and governance reforms-inspired risk disclosures informative about a firm's current and future prospects, and in particular, whether debt markets react to such risk disclosures. Admittedly, a number of plausible theoretical explanations exist. For example, agency theory predicts that increased risk disclosures can enhance managerial monitoring and reduce information asymmetry, which can reduce cost of capital by improving BCRs (Aman & Nguyen, 2013; Ashbaugh-Skaife, Collins, & LaFond, 2006; Chan, Hsu, & Lee, 2013; Jensen & Meckling, 1976; Kuang & Qin, 2013). Similarly, signalling, legitimacy, and resource Maghzom dependence theories predict that improved risk disclosures can send important signals to credit rating agencies about the current and future performance and risk management strengths of a bank. Such improved risk disclosure may facilitate access to resources, legitimise banks' operations, and hence, equally reduce the cost of capital by enhancing their BCRs.

Furthermore, He (2018) suggests that managers have a motivation to sustain or accomplish a favourable credit rating irrespective of the rating agency's knowledge and insights about a firm's creditworthiness. Current research suggests that the benefits (costs) related to a credit rating change tend to influence decision-making about capital structure (e.g., Kisgen, 2006, 2009) and firm financing choices (Hovakimian, Kayhan, & Titman, 2010). Similarly studies indicate that companies are more likely to modify leverage in order to influence rating agencies' judgements. Yet, leverage is not the only information for credit rating agencies in deciding a company's actual credit rating. The rating procedures also require analysis of annual reports that is related to a firm's creditworthiness (Standard & Poor's, 2009).

Accordingly, previous studies have examined the drivers of, and reasons for, the incident and amount of risk disclosures (Al-Maghzom, Hussainey, & Aly, 2016a, 2016b; Barakat & Hussainey, 2013; Elshandidy, Fraser, & Hussainey, 2014; Iatridis, 2008; Ntim, Lindop, & Thomas, 2013). However, prior evidence relating to the economic consequences or informativeness of risk disclosures relating to BCRs is rare. The closest existing studies that are available are those of Aman and Nguyen (2013), Ashbaugh-Skaife et al. (2006), Chan et al. (2013), DeBoskey and Gillett (2013), and Kuang and Qin (2013), which generally found a positive relationship between traditional voluntary disclosure quality and BCRs. By contrast, and based on our extensive literature search, no previous research has examined whether credit rating agencies incorporate risk disclosures into their risk evaluations in the process of generating BCRs for banks. One plausible reason might be the general difficulty of accessing appropriate risk data, and especially the observable labour intensive nature of collecting risk data (Barakat & Hussainey, 2013; Iatridis, 2008; Ntim et al., 2013).

Similarly, the empirical evidence relating to governance structures is limited, but largely suggests that good governance structures in terms of board size, independent and diverse boards, and concentrating less power in the hands of few senior managers, such as CEOs, can have a positive impact on BCRs (Aman & Nguyen, 2013; Ashbaugh-Skaife et al., 2006; Bhojraj & Sengupta, 2003; Bradley & Chen, 2011; Grassa, 2015; Grove, Patelli, Victoravich, & Xu, 2011; Kuang & Qin, 2013; Liang et al., 2013; Li, Armstrong, & Clarke, 2014; Lin, Liu, & Noronha, 2016; Nguyen & Nielsen, 2010). Thus and by extension, it seems reasonable to argue that it is possible for the potential relationship between risk disclosures and BCRs to be further moderated by the quality of governance structures in a bank.

However, the above prior literature appears to suffer from a number of limitations. Firstly, limited prior studies have mainly examined the informativeness of risk disclosures in developed countries (Elshandidy & Neri, 2015; Maffei, Aria, Fiondella, Spanò, & Zagaria, 2014; Rajgopal, 1999); and observably, large-scale, cross-country studies are generally rare (Elshandidy & Neri, 2015; Lau,

Shrestha, & Yu, 2016; Tan, Zeng, & Elshandidy, 2017), but almost non-existent in developing countries. Secondly, despite our extensive literature search, we did not find any evidence on whether multi-governance structures (e.g., Islamic governance, board structures and ownership structures) can moderate the relationship between risk disclosures and BCRs in different regulatory environments, such as MENA countries. Thus, this empirical lacuna arguably offers a genuine opportunity to make original contributions to the existing literature.

Meanwhile, the MENA setting is particularly appropriate for this study because MENA banks display distinctive Islamic banking, economics, finance, and business characteristics along with discernible significant weaknesses regarding governance structures (Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016). For instance, MENA banks are characterised by high levels of ownership concentration in the form of family- or government-owned banks and more recently increased foreign participation (Koldertsova, 2011; Samaha, Dahawy, Hussainey, & Stapleton, 2012; World Bank, 2009). MENA banks are also characterised by weak disclosure and transparency practices, primarily due to weak central government monitoring and enforcement of corporate regulations (Kaufmann, Kraay, & Mastruzzi, 2010; Samaha et al., 2012; World Bank, 2009). However and spurred on by the need to pursue economic and market reforms, often aimed at attracting foreign direct investments, regulators, and policymakers in the MENA region have recently subscribed to IFRS/IAS, committed the Basel Accords and established several governance codes. The aim of these reforms is to enshrine shareholder rights, especially minority shareholders, enhance accountability, and improve market transparency (Amico, 2014; Koldertsova, 2011; World Bank, 2009).

In addition to governance and IFRS/IAS reforms that have been pursued in the MENA region, many commercial banks have opened windows for Islamic banking. This is largely in response to the remarkable large-scale growth in Islamic banking and finance worldwide, but particularly in the MENA region (Beck, Demirgüç-Kunt, & Merrouche, 2013; Ernst and Young, 2012; Ozturk, 2014; Safieddine, 2009). Observably and although Islamic banks have the same governance structures, they are required to distinctively operate in a *Shariah* compliant manner, which often creates further unique governance and risk challenges, especially the risk emanating from potential *Shariah* non-compliance (Beck et al., 2013; Safieddine, 2009). Further, the Islamic banking sector has generally been operating with limited central government oversight, which can arguably increase the risk of Islamic banks potentially failing (e.g., Islas Finance House in Turkey) (Chapra & Ahmed, 2002; Grassa, 2015; Hasan, 2011; Safieddine, 2009).

Consequently, this study seeks to distinctively examine the relationship among risk disclosures, BCRs, and governance structures in the MENA region, and in the process, make a number of new contributions to the extant literature. First, we contribute to the literature by providing first-time systematic evidence on the level of risk disclosures by banks across the MENA region. Second, the study contributes to the literature by providing a first-time evidence on the link between risk disclosures and BCRs that shows that increased risk disclosures are associated with higher level of bank credit ratings. Finally, we contribute to the literature by providing a first-time evidence on the moderating effect of governance structures on the risk disclosure–BCRs nexus. Specifically, we show that the informativeness of risk disclosures on BCRs is higher in banks with larger board size, greater independence, higher government ownership, and better *Shariah* supervisory board, but lower in banks with greater block ownership, higher foreign ownership and the presence of CEO duality.

The remainder of the study is structured as follows. The following section reviews BCRs, risk disclosures, governance reforms, and Islamic governance in MENA context. The next sections discuss the theoretical framework for BCRs, review empirical literature on risk disclosures and governance structures, outline the research design, report the empirical results, and provide a conclusion.

2 | BCRs, RISK DISCLOSURE AND GOVERNANCE REFORMS IN MENA BANKS

BCRs have recently been expanded and attracted significant attention from financial market investors, debt issuers, analysts, regulators and policymakers seeking unbiased assessments of creditworthiness of banks, especially in murky information environments, where the credibility of the credit rating agencies has been questioned (Ashbaugh-Skaife et al., 2006; Cavallo, Powell, & Rigobon, 2013; Iannotta, Nocera, & Resti, 2013; Lobo, Paugam, Stolowy, & Astolfi, 2017; Montes, Oliveira, & Mendonça, 2016; Salvador, Pastor, & de Guevara, 2014; Switzer & Wang, 2017).

BCRs are arguably more efficient in reflecting overall performance since banks are inherently opaque, but are exposed to a multiplicity of risks, and hence, stakeholders tend to rely on independent ratings provided by rating agencies as a way of assessing their financial viability (Beisland et al., 2014; Kusi & Opoku-Mensah, 2018; Moreira & Zhao, 2018). One reason is that the rules that independent credit rating agencies apply to measure bank ratings do not rely on banks' conventional performance metrics only, but also on other characteristics. These

include management quality, capital adequacy, asset quality, risk management, growth prospects, efficiency and internal control processes. Thus, BCRs arguably has a superior ability to accurately reflect actual bank credit quality (Beisland et al., 2014; Cheng & Subramanyam, 2008). Moreover, when a rating score is assigned, the credit rating agencies generally are concerned with the banks' governance structures since weak firm- and country-level governance structures can impair the bank's financial performance. This can also affect the financial information quality disclosed to stakeholders (Ashbaugh-Skaife et al., 2006; Fitch Ratings, 2004; Grassa, 2015).

The GFC, in particular, has stimulated regulators worldwide to pursue risk and governance reforms aimed at improving risk disclosure and governance practices (Barakat & Hussainey, 2013; Iatridis, 2008; Martín-Oliver, Ruano, & Salas-Fumás, 2017; Ntim et al., 2013; Walker, 2009; Yamori, Harimaya, & Tomimura, 2017). For example, the Basel Accords place unique emphasis on the role of external credit rating agencies by permitting banks to measure credit risk-weighted assets, which are based on the external ratings assigned by a credible rating agency (BCBS, 2006; Duff & Einig, 2009).

Consequently, regulators in MENA countries place a significant focus on the comprehensive risk management and risk disclosures in banks that are widely currently perceived as being insufficient, but by contrast, apparently have a significant impact on their ability to attract foreign investment (Amico, 2014). As a result, most of the MENA countries have adopted the Basel Accords (I, II, III) and IFRS (7, 9)/IAS (32, 39) or their domestic equivalent standards. These reforms and standards have sought to strengthen the need for comprehensive risk management and disclosure practices. Specifically, the Basel Accords (I, II, III), governance codes (Saudi code), and IFRS (7, 9)/IAS (32, 39) concentrate on qualitative and quantitative disclosure in relation to credit, liquidity, and market risks. However, the Basel Accords only consider operational risk as a separate category, while the IFRS/IAS lack sufficient granularity in some key risk areas (e.g., operational and strategic risks), which in general are omitted from risk disclosure regulations (Barakat & Hussainey, 2013). This implies that any robust framework for managing, measuring, and disclosing risk ought to draw its items from multiple sources (e.g., the Basel Accords, governance codes, and IFRS/IAS) rather than a single source.

Importantly, many countries in the MENA region and other emerging markets, which experienced banking failures during GFC, have apparent weaknesses in political stability, government effectiveness, regulatory environment, and governance systems, as shown in Table 1 (Bikker & Vervliet, 2018; Kaufmann et al., 2010; Kirkpatrick, 2009). Moreover, MENA banks have significant weaknesses regarding governance structures. In particular, MENA banks are characterised by high levels of ownership concentration in the form of family- or government-owned banks, and recently increased foreign participation, as well as dual board structure, often consisting of conventional and *Shariah* supervisory boards (Koldertsova, 2011; Samaha et al., 2012; World Bank, 2009). Further, MENA banks are characterised by weak disclosure and transparency, primarily due to disclosure–averse culture and weaker government oversight and enforcement (Kaufmann et al., 2010; Samaha et al., 2012; World Bank, 2009).

In addition to explicit commitment to the principles of the Basel Accords and pursuance of governance and IFRS/IAS reforms by countries in the MENA region (e.g., every MENA country has issued a CG code and subscribes to some form of IFRS/IAS), many commercial banks have opened windows for Islamic banking, especially after the remarkable large-scale growth in Islamic banking and finance worldwide, but particularly in this region (Beck et al., 2013; Ernst & Young, 2012; Ozturk, 2014; Safieddine, 2009). Thus and although Islamic banks have the same governance structures, they are required to operate in a *Shariah*-compliant manner. This creates unique governance structures, as well as raises a new risk called "*Shariah* risk" concerning the potential risk of becoming *Shariah* non-compliant, which can generate a further financial turmoil and threaten Islamic banks' activities (e.g., cash deposits and withdrawals), and hence damage the banks' reputation (Abedifar, Giudici, & Hashem, 2017; Ashraf, Rizwan, & L'Huillier, 2016; Aysan & Ozturk, 2018; Bitar, Hassan, & Walker, 2017; Chapra & Ahmed, 2002; Grassa, 2015; Hassan & Aliyu, 2018; Safieddine, 2009). Further, Islamic banking has typically been operating with a weaker government oversight, which has led to a number of noticeable Islamic bank failures (e.g., Islas Finance House in Turkey, the Dubai Islamic Bank, the Islamic Investment Companies of Egypt) (Chapra & Ahmed, 2002; Grassa, 2015; Hasan, 2011; Safieddine, 2009). Additionally, Islamic banks rely on a risk-sharing models and are required to be more transparent and accountable compared to conventional counterparts. One way by which they can demonstrate greater accountability and transparency is to engage in increased disclosure of their risk exposures. Together, this arguably offers a unique context to examine the relationship among risk disclosures, BCRs, and governance structures.

3 | LITERATURE REVIEW: THEORY, EMPIRICS AND RESEARCH HYPOTHESES DEVELOPMENT

In this section, we first briefly outline the theories underpinning our study and then, subsequently, rely on the

TABLE 1 Cross-regional worldwide governance indicators comparison

	Voice and accountability	Political stability and absence of violence/terrorism	Government effectiveness	Regulatory quality	Rule of law	Control of corruption
East Asia & Pacific	54	63	49	47	56	53
Europe & Central Asia	66	63	68	69	66	63
Latin America & Caribbean	61	55	58	56	51	57
MENA	25	28	44	44	44	45
North America	87	77	89	90	60	89
South Asia	34	23	34	26	32	34
Sub-Saharan Africa	32	34	27	30	29	30

Note: Each number in each cell refers to the overall score (%) given to each region under each of the worldwide governance indicators. Source: Worldwide Governance Indicators (*WGI*) (World Bank, 2015).

briefly outlined theories along with insights from the related prior empirical studies in developing our hypotheses.

3.1 | Theory

The incentives to change bank-level outcomes (e.g., BCRs) are generally explained by a number of plausible theories due to the complex and opaque nature of bank performance. However, a comprehensive theory to understand the performance and disclosure does not yet exist. Hence, recent studies have called for richer explanations (Ashbaugh-Skaife et al., 2006; Grove et al., 2011; Heflin, Shaw, & Wild, 2011; Ntim et al., 2013). For example, agency theory suggests that there are inherent conflicts, which tend to create agency problems between bank shareholders and their managers on the one hand, and bondholders and shareholders on the other hand. Consequently, greater managerial monitoring often associated with increased risk disclosure can lead to a better alignment of interests among shareholders, managers and bondholders by reducing information asymmetry, and thereby enhance BCRs (Chan et al., 2013; Fama & Jensen, 1983; Grove et al., 2011; Jensen & Meckling, 1976). Similarly and with respect to signalling theory (Spence, 1973), the primary objective of corporate disclosure is to inform stakeholders about the firm's current and future performance and value. This suggests that disclosure decisions, such as risk disclosures can send signals to the market regarding a bank's current and future performance and risk exposures.

Publicly released risk disclosures matter for credit rating agencies for two main reasons (He, 2018). First, publicly disclosed risk information is subject to scrutiny from both external investors and legal agencies. In such a sense, the publicly released disclosures are more credible than private communications (e.g., Armstrong, Guay, & Weber, 2010; Bushman, Piotroski, & Smith, 2004). He (2018) finds that managers possess no legal accountability for privately circulating incorrect or misleading information to BCR agencies. Second, publicly released risk information could impact the anticipated value of a company's future cash flow over forming and/or changing market expectations. The anticipated future cash flow change would then modify a BCR agency's evaluated level of the company's creditworthiness, which cannot be achieved by privately communicating firm information to BCR agencies. Also, previous literature suggests that better disclosure can (a) decrease information asymmetry, which decreases agency risk; (b) decrease adverse selection costs to a firm; and (c) reduce uncertainty and information risk, thus decreasing the firm's cost of capital (Campbell, Chen, Dhaliwal, Lu, & Steele, 2014; Dhaliwal, Li, Tsang, & Yang, 2011; Elbannan & Elbannan, 2015; Elshandidy & Neri, 2015; Elshandidy & Shrives, 2016; Filzen, 2015; Hope, Hu, & Lu, 2016; Kravet & Muslu, 2013; Mansi, Maxwell, & Miller, 2011; Tan et al., 2017; Verrecchia, 1983).

Finally, from legitimacy and resource dependence theoretical perspectives, enhanced disclosures can provide an essential link between banks and critical resources, such as access to finance, business contracts and suppliers (Nicholson & Kiel, 2007; Pfeffer & Salancik, 2003; Salancik & Pfeffer, 1978). Consequently, based on the above theories, prior studies have examined the relevance of banks' disclosures with the aim of improving links with the external environment to enhance managerial monitoring, reduce information asymmetry, gain access to resources, and consequently enhance BCRs (Nicholson & Kiel, 2007). This study, thus, draws insights from multiples theories, including agency, signalling, legitimacy and resource dependence theories to explain the value relevance of banks' risk disclosures, as well as governance structures and their moderating impact on BCRs.

3.2 | The informativeness of risk disclosures and BCRs

IFRS/IAS and Basel Accords have placed growing importance on risk disclosures (Barakat & Hussainey, 2013; BCBS, 2015b). It is crucial to identify the benefits that risk disclosures can provide. If external users find risk disclosures valuable, then, agency theory suggests that increased risk disclosure can facilitate managerial monitoring by reducing information asymmetry, and thereby decrease the cost of capital through enhanced BCRs (Aman & Nguyen, 2013; Ashbaugh-Skaife et al., 2006; Chan et al., 2013; Jensen & Meckling, 1976; Kuang & Qin, 2013). On the other hand, if banks disclose sensitive information regarding risk, it might have adverse effects on BCRs, and thus the extent of risk disclosure arguably depends upon market transparency levels and the cost/benefits of risk disclosures (Hertig, 2006).

The role of accounting disclosure in decreasing inefficiencies in debt and capital markets has been the subject of wide research (See Healy & Palepu, 1993, 1995, 2001, for further review). Specifically, disclosure literature suggests that, even in an efficient capital market, insiders have greater information compared to outside investors on their companies' anticipated future performance and risk (Healy & Palepu, 2001). Healy and Palepu (2001) suggest that if regulations and standards of auditing and accounting work perfectly, financial disclosures convey variations in their company's performance to outside investors. On the other hand, Healy and Palepu (1993), He (2018), and Healy and Palepu (1995) indicate that if regulations and standards of auditing and accounting are imperfect, a more expected opportunity, managers compromise between creating accounting choices and disclosures to credibly disclose private information of company's performance to outside investors, and to use reported performance for acquiring resources, political or corporate governance motives. Managers' drivers for making voluntary disclosures and their integrity are, therefore, remarkable empirical questions. Based on the above argument, we suggest that signalling and resource dependence theories may enhance the level of our understanding relating to risk disclosure and the BCRs nexus. Signalling, legitimacy and resource dependence theories assume that increasing the level of risk disclosure can send important signals to credit rating agencies regarding current and future performance and risk management practices of banks, which can improve BCRs and reduce the cost of capital by facilitating access to critical resources (Ashbaugh-Skaife et al., 2006; Healy & Palepu, 2001).

Prior evidence relating to the relationship between general disclosure and BCRs is limited. Meanwhile, previous research suggests that rating agencies tend to incorporate complex information, such as disclosure quality into risk assessments. For example, Aman and Nguyen (2013), Ashbaugh-Skaife et al. (2006), Bhojraj and Sengupta (2003), Chan et al. (2013), DeBoskey and Gillett (2013), He (2018), Heflin et al. (2011), Kuang and Qin (2013), Sengupta (1998), and Tran (2014) find a positive association between disclosure quality and BCRs. For instance, He (2018) suggests that firms generally offer credible commitment to improving disclosure transparency to achieve the desired credit rating. In the same vein, Al-Hadi, Hasan, and Habib (2016); Al-Hadi, Taylor, and Al-Yahyaee (2016) suggest that market risk disclosure decreases information asymmetry, which eventually increases investment efficiency using a sample of GCC financial firms. Using a Chinese sample, Li et al. (2019) support the role of risk disclosures in improving firm investment efficiency. Finally, a number of studies show that risk disclosure may impact capital market participants (Campbell et al., 2014; Elbannan & Elbannan, 2015; Elshandidy & Neri, 2015; Elshandidy & Shrives, 2016; Filzen, 2015; Hope et al., 2016; Kravet & Muslu, 2013; Tan et al., 2017). For instance, using a USA sample, Hope et al. (2016) suggest that specific risk disclosures help financial analysts to assess fundamental risks that face a firm. Heinle and Smith (2017) also show that improved risk disclosures has a negative impact on cost of capital.

However and based on our extensive literature search, the relationship between risk disclosure and BCRs has not been previously examined. This is in line with Elshandidy et al. (2018, p. 73), who argue that "*All of the previous studies are concerned with equity markets, with no study yet addressing risk reporting in debt markets. Such studies are required to identify how firms' risk disclosure strategies affect the following: (a) debt providers' decisions; (b) credit ratings; and (c) predicting distress, default, and bankruptcy risks.*"

This, therefore, offers us a genuine opportunity to make a new contribution to the existing literature by examining the link between risk disclosures and BCRs. In particular, and to the extent that general voluntary disclosures are informative, our first hypothesis is that:

H1: *Risk disclosures have a positive impact on BCRs.*

3.3 | BCRs–risk disclosure nexus: The moderating effect of governance

If risk disclosures lead to better BCRs, then, what factors can alleviate its influence? To our knowledge, prior literature has not examined this question, and the related

research offers little theoretical direction or empirical suggestion. Most previous literature on risk disclosure has focused on the main effect with equity markets, with no study, focussing on risk disclosure in debt markets (Elshandidy et al., 2018). Thus, it is important to finding the boundary settings of the theory. Building on multi-theoretical framework that incorporates insights from agency, signalling, legitimacy, and resource dependence theories, we explored the idea that governance structures can be a significant moderator of the relationship between risk disclosures and BCRs. Prior Literature suggests that characteristics of governance structures shape the financial reporting environment and their ability to impact banks' performance (Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Alnabsha, Abdou, Ntim, & Elamer, 2018; Elamer, Ntim, & Abdou, 2017; Elamer, Ntim, Abdou, & Pyke, 2019; Elamer, Ntim, Abdou, Zalata, & Elmagrhi, 2019). Hence, the influence of risk disclosures on BCRs is likely to be contingent on the characteristics of governance structures (e.g., Ashbaugh-Skaife et al., 2006; Beltratti & Stulz, 2012; Samaha, Khlif, & Hussainey, 2015). Important among these characteristics are the ownership type and the boards' structure. Specifically, prior research points out that banks' board of directors and ownership structures may play significant role than in traditional non-financial institutions. In particular, financial institutions have larger board size and less ownership concentration than non-financial institutions due to complex, opaque and diverse operations, as well as heavy regulations (O'Sullivan, Mamun, & Hassan, 2015). Thus, the influence of risk disclosures on BCRs is expected to be contingent on boards' structure, particularly the size of the board and the extent of its independence. Of the multiple bank characteristics, boards' structure appears to be particularly relevant in developing countries.

Empirically, prior studies indicate that BCRs are affected by firm-level governance structures, such as board size, CEO duality, and board independence (Ashbaugh-Skaife et al., 2006; Beltratti & Stulz, 2012; Bhojraj & Sengupta, 2003; Bradley & Chen, 2011; Grassa, 2015; Shen, Huang, & Hasan, 2012). For instance, less powerful CEOs, greater gender diversity, higher independence, and increased managerial monitoring often associated with larger boards (Dalton & Dalton, 2011) can reduce agency conflicts among shareholders, managers, and bondholders. Similarly, resource dependence theory suggests that larger boards may offer better access to the external environment by facilitating access to vital resources and thereby enhance BCRs (Aman & Nguyen, 2013). Thus, the board supervisory effectiveness may work as an important moderator, helping or obstructing the risk disclosure–BCRs relationship (Elshandidy & Neri, 2015; Elzahar & Hussainey, 2012; Mokhtar & Mellett, 2013; Ntim et al., 2013; Tourigny, Dougan, Washbush, & Clements, 2003). Specifically, improvement in the effectiveness of board supervision leads to improvement in managerial monitoring, which might affect risk the disclosure–BCRs relationship positively, if: the percentage of independent directors increases (Alshbili, Elamer, & Beddewela, 2018; Barakat & Hussainey, 2013; Conyon & Peck, 1998), the of CEO and Chairman are different—no role duality—(Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Alnabsha et al., 2018; Elamer et al., 2017; Elamer, Ntim, Abdou, & Pyke, 2019; Elamer, Ntim, Abdou, Zalata, & Elmagrhi, 2019), and the percentage of independent directors increases (Al-Maghzom et al., 2016a, 2016b; Barakat & Hussainey, 2013). Also, it is essential to cogitate board size as an aspect that drive board supervisory effectiveness. Coles, Daniel, and Naveen (2008) and Jensen (1993) emphasise that that larger boards tend to have problems of coordination, communication, and free-riding, and thereby impact negatively on the level of risk disclosures and BCRs.

In addition to boards' structure, the impact of risk disclosures on BCRs is further likely to be contingent also on the ownership type—whether government, foreign, or block ownership is present. The level of ownership concentration and the type of control employed by main shareholders will incidentally determine the board supervisory effectiveness, conditioning the effect of risk disclosures on BCRs (Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Barakat & Hussainey, 2013; Elamer et al., 2017). The literature largely favours the view that when ownership is concentrated, disclosure is poorer, and the BCRs they obtain are more likely to be lower (Barakat & Hussainey, 2013; Werner, Tosi, & Gomez-Mejia, 2005). However, ownership concentration may indicate that stockholders are better capable of protecting their interests. Thus, large shareholders may improve risk disclosures, which may lead to improved BCRs (Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Barakat & Hussainey, 2013). However, the key owners' interest, capability and motivation to employ supervision will decide the effectiveness of the extent of managerial monitoring (Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Hasan, Taylor, Hossain, & Richardson, 2017; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Young, Peng, Ahlstrom, Bruton, & Jiang, 2008). There are a number of reasons for expecting that the influence of risk disclosures on BCRs may be weaker in government- and block-owned banks (Al-Hadi,

Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Barakat & Hussainey, 2013). First, key shareholders are expected to have both the motivation to monitor management's behaviour and, therefore, arguably reduced level of agency problems. However, extent of agency conflict may rather increase between key shareholders and minority shareholders (Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Barakat & Hussainey, 2013). For example, block owners may collude and connive with management with the aim of expropriating the wealth of minority shareholders, which may adversely affect the level of risk disclosures and BCRs (Al-Hadi et al., 2017; Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Fama & Jensen, 1983; Jensen & Meckling, 1976; Shleifer & Vishny, 1997). Second, the role of government or foreigners as major shareholders, especially in unstable economies with political stability, regulatory, and corruption problems may help in reducing agency conflicts, which can have a positive effect on the level of risk disclosures and BCRs (Al-Hadi et al., 2017; Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Barakat & Hussainey, 2013; Borisova, Fotak, Holland, & Megginson, 2015; Kaufmann et al., 2010; Shleifer & Vishny, 1997). Compared with Anglo-Saxon firms, the ownership structure of MENA banks is exceptionally concentrated, to the extent that there are nearly no banks with dispersed ownership (Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Al-Maghzom et al., 2016a, 2016b; Amico, 2014). Therefore, in such a context, we will expect ownership structure to also have a moderating effect on the relationship between risk disclosure and BCRs.

Meanwhile, prior studies examining the moderating effect of governance structures (board and ownership mechanisms) on the relationship between risk disclosures and BCRs are generally rare, but particularly acute in emerging countries, such as those in the MENA region. Therefore, our final hypothesis is that:

H2: *Governance structures (i.e., SSB, board size, CEO duality, gender diversity, BBID, block, governmental, and foreign ownership) moderate the relationship between risk disclosures and BCRs.*

4 | RESEARCH DESIGN

4.1 | Sample selection and data sources

The sample was selected from a total population of 118 listed commercial and Islamic banks in 12 MENA countries with full data over eight fiscal years (2006–2013). The banks (countries) were initially identified based on the *Bankscope* database, but due to the unavailability of some of the required data, the final sample consisted of 95 banks listed in 12 MENA stock exchanges, generating a total of 700 observations.

The study covers these eight fiscal years as they represent the most recent years for which data was available for the sampled banks. We begin with 2006 as the Basel accord became applicable in the MENA region from mid-2005. Also, data is not available for a majority of our sample prior to the year 2006. Noticeably, the sample timeframe spans over the pre-, during, and post-2007/08 financial crisis periods. A detailed sample construction procedure is presented in Table 2. Risk disclosures and corporate governance data were collected from banks' annual reports, which were downloaded from the *Perfect Information* database or from the banks' own websites. Finally, financial data was collected from annual reports, as well as the *Bankscope database*. Country-level macroeconomic and governance data was collected from the *World Bank database*.

4.2 | Variables definition and model specification

We classify the variables into six main categories as described in Table 3, which provides full definition of all of the variables employed in the study. Firstly, following past studies (e.g., Ashbaugh-Skaife et al., 2006; Grassa, 2015; Jorion, Shi, & Zhang, 2009), the dependent variable is the Fitch long-term issuer default ratings (*RATE*). The main reason for choosing Fitch is that it has the largest market share of the banking market in the MENA region. As explained by Fitch, a long-term issuer default ratings represent the rating agency's current opinion on an entity's overall vulnerability to default on its financial commitments, which reflect the financially uncured nature of that entity (Fitch Ratings, 2015). We assign the Fitch ratings, a value from 1, which reflects the highest default risk and lowest BCR, to 22, which reflects the lowest default risk and highest BCR, as described in Table 3.

Secondly, we collect data on risk disclosure index (*RDI*), which strives to measure the level of risk disclosure in six key areas and 96 individual items drawn from the IFRS 7 and 9/IAS 32 and 39, Basel Accords (I, II and III), and prior literature (e.g., Greco, 2012; Ntim et al., 2013). Appendix contains the individual items and their scoring procedure. The sub-indices consist of credit risk disclosure index (*CRDI*); liquidity risk disclosure index (*LRDI*); market risk disclosure index (*MRDI*); capital

TABLE 2 Sample construction procedure

Country	Total banks	Banks selected	IBs obs	CBs obs	DBs obs	Full sample	Percentage
Bahrain	11	9	36	8	24	68	9.71%
Egypt	11	11	13	40	20	73	10.43%
Jordan	12	12	13	75	3	91	13.00%
Kuwait	13	10	36	35	5	76	10.86%
Lebanon	6	6	0	28	16	44	6.29%
Morocco	5	1	0	8	0	8	1.14%
Oman	6	5	0	34	5	39	5.57%
Qatar	8	8	24	11	28	63	9.00%
Saudi Arabia	12	11	21	0	63	84	12.00%
Syria	11	2	1	1	0	2	0.29%
Tunisia	2	2	0	9	0	9	1.29%
UAE	21	18	32	39	72	143	20.43%
Total	118	95	176	288	236	700	100.00%

adequacy risk disclosure index (*ARDI*); operational risk disclosure quality index (*ODQI*); and strategic risks disclosure quality index (*SRDI*). The index measurement method is frequently critiqued for being intrinsically subjective (Marston & Shrives, 1991). Thus, to decrease bias, we employed the next steps. Firstly, two independent researchers coded a sample of 10 annual reports independently, and their grades were matched. No key discrepancies happened, with high agreement coefficient (0.83) that is greater than the acceptable threshold in the social science (reliability level ranges from 0.70 to 0.80) (Beattie, McInnes, & Fearnley, 2004; Krippendorff, 2004; Marston & Shrives, 1991). Secondly and subsequently, a single researcher (the main coder) finalized the coding of the rest of the *RDI*. Thirdly, the main researcher re-coded a sample of five annual reports randomly, and the findings were compared with his earlier original coding results. Seemingly, no significant discrepancies happened, with high agreement coefficient (0.95). Finally, we use Cronbach's alpha to evaluate the internal consistency of the *RDI*. The Cronbach's alpha was satisfactorily high at 83.50%; noticing that the threshold level for Cronbach's alpha is 70% (Elghuweel, Ntim, Opong, & Avison, 2017).

Third, we use the *Shariah* supervisory board (*SSB*) as a proxy for Islamic governance. Fourth, board structure variables include board size (*BS*), CEO power (*DUAL*), gender diversity (*GDB*), and board independence (*BBID*). Fifth, ownership structure variables include block ownership (*BOWN*), foreign ownership (*FOWN*), and government ownership (*GOWN*).

Finally, the models contain a large number of bank- and country-level control variables, which past studies suggest can affect BCRs (e.g., Aman & Nguyen, 2013; Ashbaugh-Skaife et al., 2006; Bhojraj & Sengupta, 2003; DeBoskey & Gillett, 2013; Grassa, 2015; Heflin et al., 2011; Kuang & Qin, 2013; Sengupta, 1998). Bank-level control variables include bank size (*LNTA*), performance (*ROAA*), liquidity (*LIQ*), income diversity (*INCD*), operations efficiency (*COST*), capital (*CAP*), and year dummies (*YD*). Country-level governance variables include voice and accountability (*V&A*), regulatory quality (*RQ*), and the rule of law (*RL*), whilst country-level macro-economic variables include inflation (*INFL*), and GDP per capita (*GDP*) (Abdallah, Hassan, & McClelland, 2015; Al-Hadi, Hasan, & Habib, 2016; Al-Hadi, Taylor, & Al-Yahyaee, 2016; Barakat & Hussainey, 2013; Elamer et al., 2017; Elamer, AlHares, Ntim, & Benyazid, 2018; Elamer, Ntim, Abdou, & Pyke, 2019; Elamer, Ntim, Abdou, Zalata, & Elmagrhi, 2019).

Assuming that all the hypothesised relationships are linear, our basic ordered logistic regression model to be estimated is:

$$RATE_{bt} = \alpha_0 + \beta_i RDI_{bt-1} + \beta_i \sum_{i=1}^{8} RDI{*}CG_{bt-1} + \sum_{i=1}^{20} \beta_i CONTROLS_{bt-1} + \varepsilon_{bt}, \quad (1)$$

where:

RATE refers to Fitch long-term issuer default ratings; *RDI* refers to risk disclosure index proxy for risk disclosure level; *RDI *CG* refers to *RDI *SSB*, *RDI *BS*, *RDI *DUAL*, *RDI *GDB*, *RDI *BBID*, *RDI *BOWN*, *RDI *GOWN*, and *RDI *FOWN*. *CONTROLS* refers to the bank- and country-level control variables, including *LNTA*, *ROAA*, *LIQ*, *INCD*, *COST*, *CAP*, *V&A*, *RQ*, *RL*, *YD*, *INFL*, and *GDP*.

TABLE 3 Summary of variables definitions

Variables	Definitions and coding
Panel A: Dependent variables (Fitch long-term issuer default ratings).	
RATE	Is the assigned rating score for Fitch's long term issuer default ratings coded according to: 22 if the bank has Fitch ratings of AAA; 21 if AA+; 20 if AA; 19 if AA-; 18 if A+; 17 if A; 16 if A-; 15 if BBB+; 14 if BBB; 13 if BBB-; 12 if BB+; 11 if BB; 10 if BB-; 9 if B+; 8 if B; 7 if B-; 6 if CCC+; 5 if CCC; 4 if CCC-; 3 if CC; 2 if C; 1 if DDD, DD, D; 0 if NR, WD.
Panel B: Risk disclosure index.	
RDI	This is the overall unweighted risk index, consisting of six risk components, namely credit risk disclosure; liquidity risk disclosure; market risk disclosure; capital adequacy risk disclosure; operational risk disclosure; and strategic risks disclosure, and 96 individual items. Each item is scored 1 if it is disclosed and 0 otherwise. The scores are then aggregated and expressed as a percentage, ranging from 0% (lowest) to 100% (highest). Appendix contains the items and scoring procedure.
W-RDI	This is an alternative weighted risk disclosure index, consisting of six risk components, namely credit risk disclosure; liquidity risk disclosure; market risk disclosure; capital adequacy risk disclosure; operational risk disclosure; and strategic risks disclosure, and 96 individual items. Each item is scored 0 (not disclosed), 1 (risk item disclosed by bank contains past, future, good, bad and/or qualitative information) and 2 (risk item disclosed by bank contains past, future, good, bad, qualitative and/or quantitative information) if it is disclosed. The scores are then aggregated and expressed as a percentage, ranging from 0% (lowest) to 100% (highest). Appendix contains the items and scoring procedure.
Panel C: Corporate governance (CG) variables.	
BOWN	Percentage of shareholders with at least 5% to a bank's total ordinary shareholdings.
GOWN	Percentage of governmental ownership with at least 5% to a bank's total ordinary shareholdings.
FOWN	Percentage of foreign ownership with at least 5% to a bank's total ordinary shareholdings.
BS	Number of board of directors on a bank's board.
DUAL	1, if a company's CEO and chairperson positions are held by same person, 0 otherwise.
GDB	Percentage of women directors to the total number of a bank's board of directors.
BBID	Percentage of non-executives directors to the total number of a bank's board of directors.
SSB	The total SSB characteristics score (*SSB*), which is calculated based on an SSB index that contains seven items. Scoring criteria are; SSB existence = 1, if a bank has SSB board, 0 otherwise.; SSB report =1, if a bank has disclosed SSB report, 0 otherwise; SSB size =1, if a bank has disclosed number of SSB's member, 0 otherwise; SSB meetings = 1, if a bank has disclosed number of SSB meetings, 0 otherwise; Experience = 1, if a bank discloses SSB experience, 0 otherwise; Independent = 1, if SSB's members are independent from management, 0 otherwise; Total fees disclosed = 1, if a bank discloses SSB fees/ compensation, 0 otherwise. This are then aggregated and expressed as a percentage ranging from 0% (lowest) to 100% (highest).
Panel D: control variables.	
LNTA	Natural log of total assets.
ROAA	Percentage of net income to total asset.
LIQ	Net loans to total assets.
INCD	Percentage of net interest income/ average earning assets.
COST	Percentage of cost to income.
CAP	Ratio of capital to risk-weighted assets
V&A	Country-level voice and accountability score based on Kaufmann et al. (2010), which measures the extent to which a country's residents contribute towards choosing their government, enjoying freedom of independence and association, and having unrestricted access to media in years. A higher score means more accountability.
RQ	Country-level regulatory quality score based on Kaufmann et al. (2010), which captures the ability of the government to formulate and implement sound policies and regulations in years that promotes private sector development. A higher score means better regulatory quality.
RL	Country-level rule of low score based on Kaufmann et al. (2010), which measures the level to which managers abide by the dictates of the rule of law. A higher score means better adherence to the rule of law.
INFL	Consumer prices index.
GDP	GDP per capita (current US$).
YD	Dummies for each of the fiscal years 2006–2013.

TABLE 4 Summary descriptive statistics for *RATE*, *RDI* and *SSB* index for all 700 bank-years observations

	All	2006	2007	2008	2009	2010	2011	2012	2013
RATE									
Mean	14.12	14.44	14.53	14.40	14.29	14.09	13.77	13.69	13.84
Median	15.00	15.00	16.00	15.00	15.00	15.00	15.00	15.00	15.00
STD	3.63	3.32	3.33	3.41	3.31	3.34	4.03	4.13	4.04
Min	1.00	7.00	7.00	7.00	7.00	7.00	1.00	1.00	1.00
Max	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00	19.00
The un-weighted risk disclosures index (*RDI*) (%)									
Mean	58.58	37.45	51.84	56.82	59.83	63.79	64.11	65.11	66.25
Median	62.50	37.50	55.21	60.42	63.54	65.63	65.63	66.67	67.71
STD	15.96	14.15	16.39	16.17	16.03	10.88	11.02	11.14	10.05
Min	1.04	6.25	6.25	1.04	7.29	26.04	25.00	19.79	19.79
Max	87.50	80.21	83.33	83.33	83.33	83.33	81.25	87.50	87.50
The weighted risk disclosures index (*W-RDI*) (%)									
Mean	41.64	23.43	36.45	40.74	42.74	45.89	46.15	47.13	47.74
Median	44.79	21.88	39.58	43.75	45.57	46.61	47.92	48.44	48.44
STD	12.58	10.53	13.01	12.56	12.84	7.91	7.81	8.07	7.54
Min	1.04	3.65	3.65	1.04	3.65	14.58	14.06	9.90	9.90
Max	70.31	55.21	66.67	66.67	67.71	65.63	61.46	70.31	70.31
SSB index (%)									
Mean	19.86	14.29	16.71	17.86	21.57	21.57	20.71	21.57	23.86
Median	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STD	27.29	22.86	25.29	25.86	27.71	28.00	27.71	28.71	30.29
Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max	100.00	85.71	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Note: Our final sample covers 95 banks listed in 12 MENA stock exchanges as follows: Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia and UAE. The final sample consists of 700 bank-year observations over eight fiscal years, from 2006 to 2013. This table reports descriptive statistics of Fitch long-term issuer default ratings (*RATE*), the levels of compliance with un-weighted (*RDI*) and weighted risk disclosures index (*W-RDI*) and *Shariah* supervisory board index (*SSB*).

5 | EMPIRICAL RESULTS AND DISCUSSION

5.1 | Descriptive statistics and bivariate analyses

Table 4 summarises descriptive statistics for the *RATE*, un-weighted (*RDI*), weighted risk disclosures index (*W-RDI*), and *SSB* for all bank fiscal years and also separately for each of the eight-firm years investigated from 2006 to 2013. Table 4 shows that there is a high amount of variation in the BCRs between banks. For instance, *RATE* ranges from a minimum of 1 (highest default likelihood) to a maximum of 19 (lowest default likelihood) with the median *RATE* of 14.12 (good credit quality), which indicates that most banks in MENA have good credit rating. However, there has been a continuous decrease in BCRs from 2008 onwards, which reflects the impact of continued crises, noticeably beginning with the GFC in 2007, and credit crunch in 2010. Specifically, the *RATE* averages around 14.4, 14.29, 14.09, 13.77, 13.69, and 13.84 in 2008, 2009, 2010, 2011 and 2012, respectively. However, the *RATE* started to experience observable increases in 2013, which indicates relative recovery among MENA banks from the GFC crisis's effects. Finally, there is evidence that the level of listed bank *RATE* before GFC is higher than those reported during and after GFC. This evidence reflects the extensive rate reversals and corrective measures taken by the credit rating agencies towards addressing apparent flaws that were inherent in their rating methodologies.

Also, Table 4 reports that there is high variability in risk disclosures among MENA banks. For example, and in line with past evidence (Ntim et al., 2013), the un-

weighted *RDI* ranges from a minimum of 1 (1.04%) to a maximum of 84 (87.50%) with a mean of 56.24 (58.58%). Risk disclosure level (percentage) indicates that there is a significant level of discretion in the bank management's disclosure choices. It is also noticeable that there has been a stable improvement in the risk disclosures during and after the crisis. For instance, the banks have *RDI* mean score (percentage) of 35.95 (37.45%), 49.77 (51.84%), 54.55 (56.82%), 57.44 (59.83), 61.24 (63.79%), 61.55 (64.11%), 62.51 (65.11%), and 63.60 (66.25%) in 2006, 2007, 2008, 2009, 2010, 2011, 2012, and 2013, respectively.

This indicates that the GFC and credit crunch appeared to have impacted on the extent of the banks' risk disclosures, especially after regulatory reforms (CG codes, Basel II, III and IFRS 7, 9/IAS 32, 39) in most of the countries sampled. Finally, a steady increase in *SSB* is also observable, which indicates the importance of banks' complying with *Shariah* rules and in signalling their *Shariah*-compliant status to their stakeholders with a view to legitimising their operations as shown in Table 4. However, disclosures relating to the *SSB's* composition and competence is still very low, which indicates that *Shariah*-compliant disclosures are not common in MENA banks due to adverse disclosure culture (Koldertsova, 2011; Samaha et al., 2012; World Bank, 2009).

Table 5 reports descriptive statistics for various governance and control variables included in the models. Generally, there is variability in the distribution of all the variables. For instance, *BOWN* ranges from 0 to 100%, with an average value of 55.44%. This suggests that despite the recommendations of the Basel Accords, World Bank and OECD best practices regarding the need for greater diversity in ownership structure, MENA banks still have high levels of ownership concentration.

Further, our descriptive statistics indicate that the majority of the sampled banks' are profitable with a mean profitability ratio of 1.73%. Moreover, Table 5 indicates that most of the banks in the sample make a distinction between the chairman and CEO positions with a mean of 81%, and these findings are consistent with the best practice governance reforms that have been pursued throughout the MENA region. Although the board size ranges from 5 to 15 directors with a mean of 9.50 directors, only 2% of them are observably female directors with a maximum of 27%. This means that men dominate MENA banks' boards. Regarding the country-level governance variables, Table 5 shows that *voice and accountability* is poor, with a mean value of −0.96 and ranges between −1.86 and −0.11. In addition, regulatory quality (*RQ*) and the rule of low (*RL*) reflect country-level governance quality with mean values of 0.28 and 0.30, respectively. Finally, the values of *LNTA*, *LIQ*, *INCD*, *COST*, *CAP*, *INFL*, and *GDP* as shown in Table 5 suggest wide variability in the sample and thus reduce possibilities of experiencing any instances of sample selection bias.

Correlation coefficients among the variables used in the regression models to test for multicollinearity are presented in Table 6. The study reports both the Pearson product–moment correlations and the Spearman rank-order correlations for robust results, and noticeably, the significance and direction of both correlations are generally similar. This demonstrates that there are no serious non-normality problems within the data. Further, there are significant relationships between the variables, as expected. For example, Table 6 shows that *RATE* is positively and significantly correlated with *RDI*, *LNTA*, *ROAA*, *LIQ*, *GOWN*, *BS*, *BBID*, *SSB*, *RQ*, *RL*, and *GDP*, whereas *RATE* is negatively and significantly correlated with *COST*, *BOWN*, *FOWN*, *DUAL*, *GDB*, *V&A*, and *INFL*.

5.2 | Results and discussion

Table 7 presents the ordered logistic regression analysis results for 10 different models. As noted previously, this study first examines the informativeness of risk disclosures, and subsequently, ascertains whether governance structures have a moderating effect on the risk disclosure-BCRs nexus using MENA banks. Generally, the 10 models are all statistically significant (i.e., p-value <.01) and explain 47.17, 50.00, 51.19, 65.11, 55.39, 60.58, 69.13, 57.35, 53.26 and 84.21% of the variation in *RATE*, respectively. Similarly, the results show that risk disclosures and the moderating effect of governance structures can explain differences in *RATE* as follows.

Firstly, risk disclosure (*RDI*) coefficients in Models 1–3 of Table 7 have a positive and statistically significant impact on *RATE*, implying that MENA banks with high *RDI* are more likely to receive higher ratings, especially post-GFC. The positive relationship between *RDI* and *RATE* is consistent with theoretical predictions. That is, increased *RDI* appears to alleviate agency conflicts (agency theory) by reducing information asymmetry among bondholders, managers and shareholders. In addition, there appears to also be a greater necessity for insiders to improve risk disclosures in order to legitimise (legitimacy theory) their decisions to bondholders and shareholders. Further, committing to greater levels of *RDI* is one way by which managers can signal (signalling) the quality and future prospects of a bank to the market, which can facilitate access to critical resources (resource dependence), such as finance. This also means that *H1* is empirically supported, as well as offer further support to the findings of previous studies (e.g., Aman & Nguyen,

TABLE 5 Summary descriptive statistics of the independent and control variables for all 700 observations

Variables	Mean	Median	Std. Dev.	Minimum	Maximum
Panel A: Corporate governance (CG)/ownership characteristics variables					
BOWN (%)	55.44	58.95	26.97	0.00	100.00
GOWN (%)	16.40	8.70	21.19	0.00	89.06
FOWN (%)	21.94	7.50	27.84	0.00	98.50
BS (number)	9.50	9.00	1.91	5.00	15.00
DUAL (dummy)	0.19	0.00	0.60	0.00	1.00
GDB (%)	0.02	0.00	0.06	0.00	0.27
BBID (%)	0.89	0.91	0.17	0.11	1.00
Panel B: Country level-governance and other control variables					
LNTA (log)	15.75	15.75	1.55	3.73	21.09
ROAA (%)	1.73	1.64	2.44	−26.27	23.47
INCD (%)	31.37	29.98	16.49	−63.35	180.83
LIQ (%)	59.05	55.65	155.10	0.00	82.01
COST (%)	42.46	39.17	26.50	3.99	284.00
CAP (%)	20.42	17.40	14.62	9.26	204.41
V&A (number)	−0.96	−0.91	0.37	−1.86	−0.11
RQ (number)	0.28	0.31	0.36	−0.95	0.80
RL (number)	0.30	0.38	0.41	−0.78	1.04
INFL (%)	5.30	4.50	4.24	−4.90	15.10
GDP (USD)	23,961.70	19,288.75	23,546.24	1,472.6	93,714.10

Note: Our final sample covers 95 banks listed in 12 MENA stock exchanges as follows: Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia and UAE. The final sample consists of 700 bank-year observations over eight fiscal years, from 2006 to 2013. Variables are defined as follows: block ownership (*BOWN*), government ownership (*GOWN*), foreign ownership (*FOWN*), board size (*BS*), independent chairperson (*DUAL*), gender diversity (*GDB*), percentage of non-executives directors (*BBID*), voice and accountability (*V&A*), regulatory quality (*RQ*), rule of low (*RL*), bank size (*LNTA*), performance (*ROAA*), liquidity (*LIQ*), income diversity (*INCD*), operational efficiency (*COST*), capital adequacy (*CAP*), inflation (*INFL*), and GDP per capita (*GDP*). Table 3 fully defines all the variables used.

2013; Ashbaugh-Skaife et al., 2006; Bhojraj & Sengupta, 2003; DeBoskey & Gillett, 2013; Heflin et al., 2011; Kuang & Qin, 2013; Sengupta, 1998), which suggest that general disclosure has a positive effect on the *RATE*.

Secondly, there is evidence that the governance structures have a moderating effect on the relationship between risk disclosure and BCRs, as shown in Model 3 of Table 7. Specifically, the results show that the effect of *RDI* on the *RATE* is moderated by the governance structures as follows. First, the *Shariah* supervisory board (*SSB*) coefficients are statistically significant at the 99% confidence level for Models 2 and 3. This implies that MENA banks with better *SSB* are more likely to receive higher *RATE*, as shown in Table 7. More importantly, *RDI*SSB* coefficients are statistically significant in model 3 and implying that *H2* is also empirically supported. The positive impact of *SSB* on the *RDI–RATE* nexus is consistent with the predictions of our proposed theoretical framework (i.e., support for the agency, signalling, legitimacy, and resource dependence theories). That is, the presence of the *SSB* appears to serve as a signal (signalling theory) for improved managerial monitoring (agency theory), which can facilitate access to critical resources (resource dependence theory) by providing guarantees of compliance with *Shariah* rules and principles. This can legitimise (legitimacy theory) banks' operations in addition to reducing agency conflicts and information asymmetry (agency theory), and hence, improving risk disclosures and BCRs.

Second, the ownership structure results indicate that, in general, ownership structure has a significant moderating impact on the BCRs. For instance, consistent with previous research (Demirgüç-Kunt & Huizinga, 1999; Grove et al., 2011; Li et al., 2014), the coefficients of *GOWN* and *RDI*GOWN* in Models 2 and 3 are positive and statistically significant, as shown in Table 7. These

TABLE 6 Pearson's and Spearman's correlation matrices of the variables for all 700 observations

Variables	RATE	RDI	LNTA	ROAA	INCD	LIQ	COST	CAP	BOWN	GOWN	FOWN	BS	DUAL	GDB	BBID	SSB	V&A	RQ	RL	INFL	GDP
RATE		0.29**	0.48**	0.21**	−0.02	0.02	−0.30**	−0.05	−0.33**	0.41**	−0.55**	−0.24**	−0.31**	−0.18**	0.21**	0.21**	−0.27**	0.48**	0.67**	−0.22**	0.52**
RDI	0.31**		0.40**	−0.05	−0.10**	−.08*	−0.12**	−0.18**	0.00	0.25**	−0.15**	−0.01	−0.19**	−0.10**	0.23**	0.18**	−0.03	0.26**	0.24**	−0.42**	0.12**
LNTA	0.66**	0.51**		0.02	−0.04	−0.01	−0.23**	−0.13**	−0.07*	0.34**	−0.21**	0.06*	−0.02	−0.10**	0.15**	0.11**	−0.19**	0.05	0.09*	−0.20**	0.18**
ROAA	0.31**	−0.04	0.12**		0.21**	0.00	−0.44**	0.14**	−0.15**	0.05	−0.16**	−0.06	−0.04	−0.07	−0.01	−0.04	−0.06	0.17**	0.17**	0.01	0.15**
INCD	0.06	−0.08*	0.07	0.08*		−0.02	0.11**	0.02	−0.05	−0.04	0.00	−0.09*	0.00	0.04	−0.01	0.16**	−0.05	0.10*	−0.02	0.06**	0.01
LIQ	0.56**	0.27**	0.25**	0.25**	−0.13**		−0.03	−0.03	−0.01	0.00	0.01	0.01	−0.04	−0.03	0.05	−0.01	0.01	0.05*	0.06	0.00	0.00
COST	−0.52**	−0.15**	−0.39**	−0.62**	−0.07	−0.35**		0.22**	0.15**	−0.13**	0.17**	−0.03	0.07	0.17**	−0.04	0.07	0.07	−0.12**	−0.19**	0.07	−0.26**
CAP	0.03	−0.14**	−0.11**	0.20**	−0.14**	−0.01	−0.13**		−0.10*	0.01	−0.07	−0.17**	−0.00	−0.07	−0.17**	0.09*	−0.01	0.04	0.06	−0.06	−0.01
BOWN	−0.31**	0.03	−0.12**	−0.29**	0.00	−0.15**	0.28**	−0.09*		0.15**	0.54**	0.19**	0.03	0.05	−0.04	−0.06	−0.03	−0.27**	−0.36**	0.02	−0.40**
GOWN	0.42**	0.26**	0.36**	0.15**	−0.09*	0.33**	−0.20**	0.12**	0.07		−0.24**	−0.02	−0.18**	−0.20**	0.12**	0.07	−0.23**	0.31**	0.26**	−0.16**	0.12**
FOWN	−0.60**	−0.07	−0.27**	−0.28**	0.04	−0.37**	0.37**	−0.16**	0.52**	−0.30**		0.26**	0.09*	0.25**	−0.20**	−0.12	0.03	−0.39**	−0.43**	0.17**	−0.40**
BS	0.24**	0.03	0.06	0.09*	−0.02	−0.24**	0.08*	−0.18**	0.18**	−0.01	0.34**		0.12**	0.11**	−0.03	−0.08*	0.00	−0.21**	−0.29**	0.03	−0.25**
DUAL	−0.27**	−0.17**	−0.05	−0.09*	0.02	−0.33**	0.10*	−0.02	0.05	−0.20**	0.13**	0.12**		0.04	−0.49**	−0.16**	−0.34**	−0.32**	−0.34**	0.13**	−0.02
GDB	−0.20**	−0.06	−0.11**	−0.11**	0.04	−0.12**	0.25**	−0.15**	0.03	−0.21**	0.22**	0.13**	0.05		0.05	−0.05	0.10*	−0.16**	−0.18**	0.03	−0.20**
BBID	0.27**	0.13**	0.06	0.09*	−0.03	0.39**	−0.10*	−0.10**	−0.10**	0.17**	−0.22**	−0.06	−0.49**	0.05		0.10*	−0.04	0.22**	0.23**	−0.16**	0.04
SSB	0.35**	0.19**	0.28**	0.05	0.09*	0.10**	−0.09*	0.03	−0.10**	0.09*	−0.18**	−0.08*	−0.19**	−0.05	0.06		−0.25**	0.15**	0.18**	−0.20**	0.13**
V&A	−0.20**	0.01	−0.10**	−0.14**	−0.04	−0.15**	0.06	−0.02	−0.02	−0.23**	−0.01	0.04	−0.35**	0.04	−0.04	−0.24**		0.03	−0.01	0.02	0.11**
RQ	0.33**	0.19**	0.05	0.30**	0.04	0.38**	−0.24**	0.14**	−0.28**	0.31**	−0.38**	−0.19**	−0.30**	−0.14**	0.30**	0.15**	−0.08*		0.77**	−0.30**	0.38**
RL	0.48**	0.22**	0.11**	0.29**	−0.07	0.48**	−0.32**	0.15**	−0.35**	0.23**	−0.47**	−0.30**	−0.18**	−0.12**	0.34**	0.13**	0.18**	0.72**		−0.27**	0.58**
INFL	−0.22**	−0.39**	−0.23**	0.01	0.14**	−0.19**	0.07	−0.23**	0.06	−0.20**	0.19**	0.06	0.16**	0.04	−0.18**	−0.20**	0.02	−0.38**	−0.27**		0.03
GDP	0.55**	0.20**	0.32**	0.26**	0.08*	0.36**	−0.36**	−0.01	−0.36**	0.17**	−0.48**	−0.25**	−0.08*	−0.15**	0.21**	0.27**	0.12**	0.38**	0.58**	−0.04	

Note: Our final sample covers 95 banks listed in 12 MENA stock exchanges as follows: Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia and UAE. The final sample consists of 700 bank-year observations over eight fiscal years, from 2006 to 2013. The upper right half of the table shows Pearson's correlation coefficients while the lower left half of the table contains Spearman's rank-order correlations coefficients. **, and * denote correlation is significant at the 1, and 5% level, respectively. Variables are defined as follows: Fitch long term issuer default ratings (*RATE*); risk disclosures quality (*RDI*); *Shariah* supervisory board (*SSB*); board size (*BS*); CEO duality (*DUAL*); gender diversity (*GDB*); percentage of non-executives directors (*BBID*); block ownership (*BOWN*); government ownership (*GOWN*); foreign ownership (*FOWN*); bank size (*LNTA*); performance (*ROAA*); liquidity (*LIQ*); income diversity (*INCD*); operational efficiency (*COST*); capital (*CAP*); voice and accountability (*V&A*); regulatory quality (*RQ*); rule of low (*RL*); inflation (*INFL*) and GDP per capita (*GDP*). Table 3 fully defines all the variables used.

TABLE 7 The moderating effect of governance structures on the relationship between risk disclosures and banks' ratings using ordered logistic regression

	Dependent variable: Bank's long-term issuer default ratings (BCRs)										
Variables	(1) Full	(2) Full	(3) Full	(4) IBs	(5) CBs	(6) DBs	(7) Pre07/08	(8) 07/08	(9) post07/08	(10) 2SLS	(11) ΔBCRs
Panel A: Un-weighted RDI											
RDI	3.91***	2.79***	2.64***	1.68*	1.73*	2.64***	1.97**	0.94	2.41**	1.91*	6.17***
	(.000)	(.005)	(.008)	(.092)	(.084)	(.008)	(.049)	(.348)	(.016)	(.057)	(.000)
Panel B: Independent: Interaction variables											
RDI*BOWN	—	—	−0.21	−0.20	0.87	−1.34	−2.01**	0.46	0.17	−0.70	−0.10
			(.837)	(.844)	(.387)	(.181)	(.045)	(.643)	(.862)	(.485)	(.921)
RDI*GOWN	—	—	1.79*	1.72*	−0.61	1.61*	2.19**	0.96	1.94*	1.82*	1.14
			(.074)	(.086)	(.539)	(.097)	(.028)	(.338)	(.088)	(.069)	(.256)
RDI*FOWN	—	—	−2.27**	−0.26	−2.61***	−1.72*	−0.59	−1.77*	−1.68*	−2.06**	−1.45
			(.023)	(.794)	(.009)	(.087)	(.557)	(.076)	(.092)	(.040)	(.147)
RDI*BS	—	—	4.10***	1.78*	2.53**	2.52**	1.78*	1.97**	2.59***	2.19**	3.32***
			(.000)	(.075)	(.012)	(.012)	(.074)	(.049)	(.010)	(.029)	(.000)
RDI*DUAL	—	—	−1.38	−0.22	−1.39	−0.02	−0.01	−0.42	−1.03	−1.11	−0.49
			(.168)	(.829)	(.165)	(.986)	(.993)	(.672)	(.302)	(.269)	(.623)
RDI*GDB	—	—	1.62	0.11	1.55	2.49**	1.39	1.83*	1.08	1.74*	2.52**
			(.105)	(.913)	(.121)	(.013)	(.164)	(.067)	(.282)	(.082)	(.012)
RDI*BBID	—	—	1.63*	0.49	2.50**	1.48	0.00	0.43	0.21	0.96	0.59
			(.089)	(.623)	(.012)	(.139)	(.997)	(.666)	(.836)	(.338)	(.557)
RDI*SSB	—	—	1.18*	1.47*	—	0.18	0.23	0.16	0.22	0.64	1.34
			(.086)	(.091)		(.856)	(.821)	(.870)	(.823)	(.519)	(.181)
Panel C: Governance variables											
BOWN	—	0.36	0.15	1.86*	1.22	−2.17**	−0.52	1.27	−0.36	−1.03	2.23**
		(.722)	(.877)	(.063)	(.223)	(.030)	(.605)	(.202)	(.722)	(.303)	(.026)
GOWN	—	2.01**	1.93*	−0.31	0.48	2.66***	0.39	0.92	1.22*	0.68	1.77*
		(.044)	(.053)	(.753)	(.630)	(.008)	(.696)	(.358)	(.091)	(.497)	(.076)
FOWN	—	−4.73***	−4.75***	−2.69***	−3.05***	−0.71	−1.42	−1.82*	−4.34***	−3.34***	−1.78*
		(.000)	(.000)	(.007)	(.002)	(.477)	(.156)	(.068)	(.000)	(.001)	(.075)
BS	—	1.39	1.77*	1.13*	3.11***	0.49	0.02	1.66*	0.58	2.34**	0.13
		(.164)	(.077)	(.089)	(.002)	(.626)	(.988)	(.075)	(.561)	(.020)	(.895)

(Continues)

TABLE 7 (Continued)

Variables	Dependent variable: Bank's long-term issuer default ratings (BCRs)										
	(1) Full	(2) Full	(3) Full	(4) IBs	(5) CBs	(6) DBs	(7) Pre07/08	(8) 07/08	(9) post07/08	(10) 2SLS	(11) ΔBCRs
DUAL	—	−1.77*	−1.51	1.64*	−1.16	−0.79	1.88*	0.28	−1.08	−1.44	−2.87***
		(.076)	(.131)	(.092)	(.247)	(.432)	(.060)	(.781)	(.279)	(.149)	(.004)
GDB	—	2.76***	2.68***	2.79***	5.07***	−2.26**	0.98	0.47	2.82***	3.77***	0.06
		(.006)	(.007)	(.005)	(.000)	(.024)	(.328)	(.637)	(.005)	(.000)	(.956)
BBID	—	2.12**	2.54**	1.29*	3.39***	2.40**	−0.81	0.80	3.79***	2.74***	3.16***
		(.034)	(.011)	(.096)	(.001)	(.017)	(.420)	(.422)	(.000)	(.006)	(.002)
SSB	—	5.00***	4.89***	2.33**	—	3.08***	2.01**	2.05**	3.25***	1.63*	1.26
		(.000)	(.000)	(.020)		(.002)	(.045)	(.040)	(.001)	(.094)	(.209)
Panel D: Bank-level control variables											
LNTA	17.75***	15.38***	15.06***	6.20***	8.27***	6.95***	4.40***	6.34***	12.20***	11.11***	0.65
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.517)
ROAA	1.02	0.96	1.40*	0.32	0.10	3.56***	2.20**	0.74	0.96	1.65*	1.35
	(.310)	(.336)	(.072)	(.752)	(.922)	(.000)	(.028)	(.457)	(.337)	(.099)	(.178)
INCD	0.89	−0.32	−0.54	−1.08	1.73*	0.31	−0.98	−0.94	−0.83	−0.25	−2.29**
	(.373)	(.750)	(.586)	(.279)	(.084)	(.756)	(.327)	(.345)	(.408)	(.802)	(.022)
LIQ	8.75***	7.96***	7.26***	1.72*	5.47***	0.17	0.62	2.05**	5.05***	8.92***	−1.53
	(.000)	(.000)	(.000)	(.086)	(.000)	(.865)	(.534)	(.041)	(.000)	(.000)	(.126)
COST	−1.16	−0.24	−0.13	−0.40	−0.46	−2.86***	−1.00	−0.10	−0.22	−0.29	−0.28
	(.245)	(.809)	(.895)	(.688)	(.647)	(.004)	(.319)	(.923)	(.827)	(.769)	(.783)
CAP	2.92***	1.88*	1.53	0.76	3.18***	1.76*	−2.90***	0.44	1.94*	2.40**	1.25
	(.003)	(.059)	(.125)	(.447)	(.001)	(.079)	(.004)	(.663)	(.052)	(.017)	(.211)
Panel E: Country-level control variables											
V&A	−7.17***	−4.98***	−5.76***	−3.24***	−2.98***	−3.70***	−4.07***	−5.00***	−4.33***	−7.04***	1.03
	(.000)	(.000)	(.000)	(.001)	(.003)	(.000)	(.000)	(.000)	(.000)	(.000)	(.301)
RQ	1.91*	0.24	1.61*	1.24	2.67***	2.85***	1.64*	0.23	3.21***	1.99**	0.18
	(.056)	(.811)	(.084)	(.213)	(.008)	(.004)	(.081)	(.819)	(.001)	(.047)	(.861)
RL	3.74***	3.99***	4.24***	2.16**	1.88*	3.70***	2.06**	2.54**	4.92***	2.65***	−0.89
	(.000)	(.000)	(.000)	(.031)	(.061)	(.000)	(.039)	(.011)	(.000)	(.008)	(.374)
INFL	−1.32	−0.01	−0.53	−0.54	−2.62***	−3.29***	−2.54**	−1.29	−1.94*	−3.24***	−1.56
	(.186)	(.989)	(.595)	(.591)	(.009)	(.001)	(.011)	(.196)	(.053)	(.001)	(.120)

TABLE 7 (Continued)

	Dependent variable: Bank's long-term issuer default ratings (BCRs)										
Variables	**(1) Full**	**(2) Full**	**(3) Full**	**(4) IBs**	**(5) CBs**	**(6) DBs**	**(7) Pre07/08**	**(8) 07/08**	**(9) post07/08**	**(10) 2SLS**	**(11) ΔBCRs**
GDPC	4.14***	3.11***	3.89***	1.51	3.60***	0.01	2.61***	3.33***	0.75	4.19***	1.38
	(.000)	(.002)	(.000)	(.130)	(.000)	(.995)	(.009)	(.001)	(.456)	(.000)	(.167)
YD	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
LR chi2	1,489.75***	1,574.11***	1,611.44***	450.64***	694.51***	600.29***	217.04***	399.16***	1,114.78***	97.35***	159.84***
Pseudo R^2	0.4717	0.5000	0.5119	0.6511	0.5539	0.6058	0.6913	0.5735	0.5326	0.8421	0.2022
No of obs	677	675	675	174	265	236	73	157	445	675	588

Note: p-values are in parentheses. ***, **, and * denote regression is significance at the 1, 5 and 10% levels, respectively. Our final sample covers 95 banks listed in 12 MENA stock exchanges as follows: Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia and UAE. The final sample consists of 700 bank-year observations over eight fiscal years, from 2006 to 2013. This table reports the following variables: *RATE* refers to Fitch long-term issuer default ratings; *RDI* refers to risk disclosures index proxy for risk disclosure level; *CG* refers to *SSB*, *BS*, *DUAL*, *GDB*, *BBID*, *BOWN*, *GOWN*, and *FOWN*. CONTROLS refers to the control variables, including *LNTA*, *ROAA*, *LIQ*, *INCD*, *COST*, *CAP*, *V&A*, *RQ*, *RL*, *YD*, *INFL*, and *GDP*; ε refers to the error term; α_0 refers to the constant; β_i refers to the vectors of coefficient estimates; b is bank in t time. Variables are defined as follows: Fitch long-term issuer default ratings (*RATE*); risk disclosures quality (*RDI*); *Shariah* supervisory board (*SSB*); board size (*BS*); CEO duality (*DUAL*); gender diversity (*GDB*); percentage of non-executives directors (*BBID*); block ownership (*BOWN*); government ownership (*GOWN*); foreign ownership (*FOWN*); bank size (*LNTA*); performance (*ROAA*); liquidity (*LIQ*); income diversity (*INCD*); operational efficiency (*COST*); capital (*CAP*); voice and accountability (*V&A*); regulatory quality (*RQ*); rule of low (*RL*); inflation (*INFL*) and GDP per capita (*GDP*). Table 3 fully defines all the variables used.

findings imply that MENA banks with high *GOWN* are more likely to receive higher *RATE*. Also, banks with high *GOWN* are more likely to have informative risk disclosures. Similarly, these results are consistent with the predictions of our proposed theoretical framework (i.e., support for agency, signalling, and legitimacy, and resource dependence theories). That is, *GOWN* appears to facilitate access to additional resources by providing guarantees to secure, for example, debt financing, which can enhance BCRs. Table 7 shows that the coefficients of *FOWN* and *RDI*FOWN* are statistically significant and negatively related to the *RATE* in models 2 and 3. These results are consistent with those of prior studies (e.g., Demirgüç-Kunt & Huizinga, 1999; Li et al., 2014), but inconsistent with other studies, such as Choi and Hasan (2005), and Lin and Zhang (2009). Finally, the coefficients of *BOWN* in Models 2 and 3 are statistically insignificant, which indicates that there is an insignificant relation between block ownership and BCRs in MENA banks. More importantly, Model 3 of Table 7 shows that the influence of risk disclosures on BCRs turns negative with the introduction of the *RDI*BOWN* and *RDI*FOWN* variables, which suggests that this influence is captured through these moderating effects. These results offer further empirical support for *H2* that governance structures have a moderating effect on the risk disclosure–BCRs nexus.

Finally, the findings regarding board structures indicate that there is a significant direct and indirect impact on BCRs. For example, the coefficient of *BS* and *RDI*BS* in Model 3 is positive and statistically significant, as shown in Table 7 (the coefficient in Model 2 is statistically insignificant, but still positive). This implies that MENA banks with large *BS* are more likely to receive higher *RATE*. More notably, Model 3 of Table 7 shows that the influence of risk disclosures on BCRs turns negative with the introduction of the *RDI*DUAL* variable, which suggests that this influence is captured through these moderating effects, and thereby providing additional empirical support for *H2*.

5.3 | Additional analyses

In this section, we conduct a number of additional analyses to gauge the robustness of our results to alternative measures or sub-sample estimations. Firstly and to determine whether the *RATE* behaviour differs over the pre- and post-2007/2008 GFC periods, we further explored the effect of risk disclosures and governance structures on BCRs by separating the sample into pre-crisis period (2006), during crisis (2007–8) and post-financial crisis period (2009–13) and re-run Equation (1). The results of these additional analyses are reported in Models 7, 8 and 9, respectively, of Table 7. The results are generally similar to those reported in Model 3 of Table 7. Model 8 of Table 7 shows that during the financial crisis period, board size and SSB have a positive effect on the BCRs. Remarkably and unlike other models, the results indicate that risk disclosures do not have an impact on BCRs during the financial crisis period. Secondly, to examine the impact of the type of bank on the findings, we replicate our results reported in Models 1, 2 and 3 of Table 7 after splitting our sample into three types of banks, namely (a) Islamic banks (IBs), (b) conventional banks (CBs), and (c) dual banks (DBs) in which the results are shown in Models 4, 5 and 6 of Table 7, respectively.

The results remain qualitatively the same as those reported previously in Model 3 of Table 7. However, there is a positive relation between *BOWN*, *DUAL*, and *RATE* in IBs, unlike DBs. This suggests that there is, to some extent, similarities among Islamic, conventional, and dual banks, with the results being generally robust to sub-sample estimations. Thirdly, in addition to using an un-weighted *RDI* measure, this study also uses weighted *RDI* measure to examine whether the findings are sensitive to using a weighted or an un-weighted *RDI* proxy. We do this by replicating the analyses based on using the weighted *RDI* alternative measure. The results for the various models relying on the weighted *RDI* alternative are reported in Table 8. In general, the results suggest that risk disclosures and the moderation models are all statistically significant in explaining differences in *RATE*, and to a great extent are similar to those reported previously in Table 7 for the un-weighted *RDI* measure.

Fourthly, this study further examines the effect of possible endogeneity problems that may be affected by the presence of unobserved heterogeneities and omitted variables bias problems. To this end, two-stage least squares (*2SLS*) statistical technique is used (e.g., Ashbaugh-Skaife et al., 2006; Beiner, Drobetz, Schmid, & Zimmermann, 2006; Ntim et al., 2013). In the first stage and based on our review of extensive prior studies (e.g., Aman & Nguyen, 2013; Grassa, 2015; Jensen & Meckling, 1976; Ntim et al., 2013; Ntim, Opong, & Danbolt, 2015; Ntim & Soobaroyen, 2013; O'Sullivan et al., 2015), we conjecture that the eight governance variables, including the *SSB* are determined by all the 12 control variables. We then employed their predicted values in the second stage as instruments and re-estimate Equation (1) as follows:

$$RATE_{bt} = \alpha_0 + \beta_i RDI_{bt-1} + \hat{\beta}_i \sum_{i=1}^{8} CG_{bt-1} + \beta_i \sum_{i=1}^{8} RDI{*}CG_{bt-1} + \sum_{i=1}^{12} \beta_i CONTROLS_{bt-1} + \varepsilon_{bt}. \quad (2)$$

TABLE 8 The moderating effect of governance structures on the relationship between risk disclosures and banks' ratings using ordered logistic regression

	Dependent variable: Bank's long-term issuer default ratings (BCRs)										
Variables	(1) Full	(2) Full	(3) Full	(4) IBs	(5) CBs	(6) DBs	(7) Pre07/08	(8) 07/08	(9) post07/08	(10) 2SLS	(11) ΔBCRs
Panel A: Weighted RDI											
W-RDI	7.04***	5.81***	5.82***	2.10**	2.80***	3.46***	2.28**	2.78***	5.01***	4.33***	7.68
	(.000)	(.000)	(.000)	(.036)	(.005)	(.001)	(.023)	(.005)	(.000)	(.000)	(.000)
Panel B: Independent: Interaction variables											
W-RDI*BOWN	—	—	−0.01	−0.27	0.96	−1.01	−1.93*	0.54	−0.26	−0.47	0.15
			(.989)	(.789)	(.338)	(.314)	(.053)	(.590)	(.796)	(.635)	(.883)
W-RDI*GOWN	—	—	2.44**	1.99**	0.10	1.37	2.86***	1.04	1.33	1.95*	1.09
			(.015)	(.047)	(.924)	(.170)	(.004)	(.298)	(.185)	(.051)	(.278)
W-RDI*FOWN	—	—	−1.95*	−0.88	−1.70*	−1.09	−1.34	−1.24	−0.86	−1.65*	−1.65*
			(.053)	(.380)	(.090)	(.276)	(.179)	(.215)	(.389)	(.100)	(.098)
W-RDI*BS	—	—	2.29**	0.16	0.35	1.64*	0.30	−0.26	1.44*	1.94*	0.26
			(.047)	(.872)	(.727)	(.084)	(.765)	(.793)	(.081)	(.052)	(.797)
W-RDI*DUAL	—	—	−1.45	−0.08	−1.52	−0.03	−0.11	−0.34	−1.23	−1.05	−0.93
			(.148)	(.937)	(.129)	(.978)	(.909)	(.735)	(.218)	(.294)	(.351)
W-RDI*GDB	—	—	−1.45	−0.09	−1.72*	−2.63***	1.74*	−1.91*	−1.11	−1.81*	−2.32**
			(.146)	(.931)	(.086)	(.009)	(.082)	(.056)	(.269)	(.071)	(.020)
W-RDI*BBID	—	—	1.66*	1.15	1.59*	1.78*	0.41	0.49	0.78	0.68	0.75
			(.065)	(.250)	(.092)	(.074)	(.685)	(.626)	(.437)	(.498)	(.450)
W-RDI*SSB	—	—	0.46	1.39	—	0.53	0.41	0.76	0.12	0.64	1.01
			(.646)	(.164)		(.599)	(.684)	(.450)	(.908)	(.523)	(.312)
Panel C: Governance variables											
BOWN	—	0.16	0.10	1.98**	1.36	−1.84*	−0.76	1.51	−0.39	−1.06	1.94*
		(.873)	(.919)	(.048)	(.175)	(.065)	(.446)	(.130)	(.693)	(.289)	(.052)
GOWN	—	2.11**	1.99**	0.04	0.63	2.50**	0.42	0.54	1.29*	0.73	2.16**
		(.035)	(.046)	(.968)	(.526)	(.013)	(.675)	(.590)	(.098)	(.466)	(.031)
FOWN	—	−4.62***	−4.66***	−2.79***	−3.35***	−0.67	−2.01**	−1.88*	−4.19***	−3.28***	−1.41
		(.000)	(.000)	(.005)	(.001)	(.500)	(.045)	(.060)	(.000)	(.001)	(.159)
BS	—	1.27	1.61*	1.31*	2.74***	0.47	0.07	1.60	0.39	2.31**	0.05
		(.206)	(.098)	(.089)	(.006)	(.639)	(.948)	(.110)	(.694)	(.021)	(.961)

(Continues)

TABLE 8 (Continued)

Variables	Dependent variable: Bank's long-term issuer default ratings (BCRs)										
	(1) Full	(2) Full	(3) Full	(4) IBs	(5) CBs	(6) DBs	(7) Pre07/08	(8) 07/08	(9) post07/08	(10) 2SLS	(11) ΔBCRs
DUAL	—	−1.93*	−1.63	1.75*	−1.27	−0.88	2.08**	0.33	−1.04	−1.52	−3.10***
		(.054)	(.102)	(.079)	(.205)	(.379)	(.037)	(.743)	(.298)	(.128)	(.002)
GDB	—	3.07***	2.70***	2.94***	4.62***	−2.51**	0.71	0.87	2.95***	4.03***	0.14
		(.002)	(.007)	(.003)	(.000)	(.012)	(.476)	(.382)	(.003)	(.000)	(.891)
BBID	—	2.08**	2.30**	1.57*	3.14***	2.57***	−0.67	0.58	3.63***	2.73***	3.73***
		(.037)	(.021)	(.074)	(.002)	(.010)	(.501)	(.563)	(.000)	(.006)	(.000)
SSB	—	3.86***	3.95***	2.61***	—	2.29**	1.53	1.93*	2.54**	0.59	0.90
		(.000)	(.000)	(.009)		(.022)	(.126)	(.053)	(.011)	(.556)	(.370)
Panel D: Bank-level control variables											
LNTA	15.19***	13.67***	13.50***	5.92***	8.17***	6.33***	4.52***	5.95***	10.31***	8.21***	0.42
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.673)
ROAA	0.44	0.48	0.53	0.29	0.40	2.86***	2.09**	0.24	1.22	1.31	0.68
	(.658)	(.635)	(.598)	(.775)	(.689)	(.004)	(.036)	(.810)	(.221)	(.189)	(.497)
INCD	0.94	−0.06	−0.31	−1.15	1.77*	1.15	−0.29	−0.88	−0.85	−0.03	−2.32**
	(.348)	(.952)	(.759)	(.251)	(.077)	(.249)	(.772)	(.378)	(.398)	(.976)	(.020)
LIQ	8.20***	7.47***	7.31***	1.77*	5.82***	0.50	0.52	2.14**	4.69***	8.53***	1.34
	(.000)	(.000)	(.000)	(.077)	(.000)	(.614)	(.601)	(.032)	(.000)	(.000)	(.181)
COST	−0.84	−0.2	−0.34	−0.52	−0.03	−3.06***	−0.79	−0.12	−0.41	0.37	−0.52
	(.401)	(.786)	(.732)	(.603)	(.979)	(.002)	(.429)	(.907)	(.685)	(.714)	(.602)
CAP	2.84***	2.00**	1.70*	0.71	3.49***	1.81*	−2.95***	0.01	2.05**	2.54**	1.59
	(.005)	(.045)	(.090)	(.480)	(.000)	(.070)	(.003)	(.993)	(.040)	(.011)	(.113)
Panel E: Country-level control variables											
V&A	−6.48***	−4.61***	−4.88***	−3.29***	−2.83***	−3.17***	−3.84***	−4.60***	−3.96***	−6.78***	−0.77
	(.000)	(.000)	(.000)	(.001)	(.005)	(.002)	(.000)	(.000)	(.000)	(.000)	(.443)
RQ	1.89*	0.17	1.81*	1.02	2.84***	2.90***	2.45**	0.77	3.46***	2.17**	0.22
	(.059)	(.861)	(.075)	(.309)	(.005)	(.004)	(.014)	(.443)	(.001)	(.030)	(.824)
RL	2.87***	3.18***	3.35***	2.03**	1.05	3.65***	1.87*	2.01**	4.83***	1.95*	1.09
	(.004)	(.001)	(.001)	(.042)	(.294)	(.000)	(.061)	(.045)	(.000)	(.051)	(.275)
INFL	−1.19	−0.02	−0.32	−0.72	−2.19**	−3.19***	−2.48**	−0.83	−2.41**	−3.28***	−2.06**
	(.234)	(.980)	(.748)	(.472)	(.029)	(.001)	(.013)	(.408)	(.016)	(.001)	(.040)

TABLE 8 (Continued)

	Dependent variable: Bank's long-term issuer default ratings (BCRs)										
Variables	**(1) Full**	**(2) Full**	**(3) Full**	**(4) IBs**	**(5) CBs**	**(6) DBs**	**(7) Pre07/08**	**(8) 07/08**	**(9) post07/08**	**(10) 2SLS**	**(11) ΔBCRs**
GDPC	4.62***	3.70***	3.98***	1.51	3.47***	0.31	2.44**	3.47***	0.70	4.66***	1.54
	(.000)	(.000)	(.000)	(.130)	(.001)	(.759)	(.015)	(.001)	(.481)	(.000)	(.124)
YD	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included	Included
LR chi2	1,527.77***	1,601.83***	1,620.91***	438.39***	694.35***	597.21***	214.25***	402.09***	1,129.77***	100.06***	185.01***
Pseudo R^2	0.4838	0.5088	0.5149	0.6335	0.5538	0.6027	0.6824	0.5777	0.5398	0.8457	0.2341
No of obs	677	675	675	174	265	236	73	157	445	675	588

Note: p-values are in parentheses. ***, **, and * denote regression is significance at the 1, 5 and 10% levels, respectively. Our final sample covers 95 banks listed in 12 MENA stock exchanges as follows: Bahrain, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia and UAE. The final sample consists of 700 bank-year observations over eight fiscal years, from 2006 to 2013. This table reports the following variables: *RATE* refers to Fitch long-term issuer default ratings; *RDI* refers to risk disclosures index proxy for risk disclosure level; *CG* refers to *SSB*, *BS*, *DUAL*, *GDB*, *BBID*, *BOWN*, *GOWN*, and *FOWN*. CONTROLS refers to the control variables, including *LNTA*, *ROAA*, *LIQ*, *INCD*, *COST*, *CAP*, *V&A*, *RQ*, *RL*, *YD*, *INFL*, and *GDP*; ε refers to the error term; α_0 refers to the constant; β_i refers to the vectors of coefficient estimates; *b* is bank in *t* time. Variables are defined as follows: Fitch long-term issuer default ratings (*RATE*); risk disclosures quality (*RDI*); *Shariah* supervisory board (*SSB*); board size (*BS*); CEO duality (*DUAL*); gender diversity (*GDB*); percentage of non-executives directors (*BBID*); block ownership (*BOWN*); government ownership (*GOWN*); foreign ownership (*FOWN*); bank size (*LNTA*); performance (*ROAA*); liquidity (*LIQ*); income diversity (*INCD*); operational efficiency (*COST*); capital (*CAP*); voice and accountability (*V&A*); regulatory quality (*RQ*); rule of low (*RL*); inflation (*INFL*) and GDP per capita (*GDP*). Table 3 fully defines all the variables used.

Equation (2) is re-estimated similarly as Equation (1) by using the predicted values from the first stage estimation as instruments for the eight governance variables, including the *SSB*. The results of the *2SLS* (Model 10), which are reported in Tables 7 and 8 after controlling for unobserved heterogeneity, are fundamentally similar to those reported in Model 3 of both Tables 7 and 8. Overall, the results reported for Model 10 in Table 7 imply that the evidence is fairly robust to possible endogeneity problems that may arise from omitted variables. The slight increase in the magnitude of the coefficients of the governance indicators in Model 10 of Table 7 compared with those in Model 3 of Tables 7 are generally in line with the findings of prior studies that instrumented parts of governance and risk disclosure variables tend to predict more strongly than their uninstrumented parts (e.g., Beiner et al., 2006; Ntim et al., 2013).

Finally, an alternative way of addressing the potential endogenous associations between *RATE* and *RDI* is to estimate the relationship by using changes in *RATE* and *RDI* ($\Delta RATE$ and ΔRDI) instead of using their levels as employed so far. The rationale is that if bank risk disclosures are really informative, then, direct changes (increases or decreases) in the *RDI* will lead to similar direct changes in the *RATE* (upgrades or downgrades). The advantage of this approach is that it has the ability to eliminate any spurious correlations between *RATE* and *RDI*. Consequently, we estimate a changes regression by employing the following model:

$$\Delta RATE_{bt} = \alpha_0 + \beta_i \Delta RDI_{bt-1} + \hat{\beta}_i \sum_{i=1}^{8} CG_{bt-1} + \beta_i \sum_{i=1}^{8} RDI{*}CG_{bt-1} + \sum_{i=1}^{12} \beta_i CONTROLS_{bt-1} + \varepsilon_{bt}. \quad (3)$$

The results of the changes regression estimate, as shown in Model 11 of Tables 7 and 8 are fundamentally similar to those reported in Model 3 of both Tables 7 and 8. The results of Model 11 are consistent with our previous evidence of a positive *RDI–RATE* relationship, implying further that our findings are robust to any potential endogeneities that may arise from spurious correlations. Moreover, the coefficient on ΔRDI) in Model 11 of Tables 7 and 8 is larger than that of the main Model. Overall, this result demonstrates that ΔRDI plays an important role in determining debt market valuation, for which the findings of our additional analyses make us fairly confident that our conclusions are not driven by any spurious or endogenous correlations.

6 | CONCLUSION

Unlike current studies on the impact of risk disclosures, which tend to focus largely on equity markets often in a single financial market, this study examines the predictive effect (informativeness) of risk disclosures on bank credit ratings (BCRs) within MENA debt markets. In addition, it also seeks to ascertain whether governance structures have a moderating effect on the risk of disclosure-BCRs nexus. Using 95 banks from 12 MENA countries over the 2006–2013 period and informed by insights drawn from agency, legitimacy, resource dependence and signalling theories, our findings are as follows.

First, our findings suggest that risk disclosures are informative in that there is a positive association between risk disclosure and BCRs. Second, we find that the relationship between risk disclosures and BCRs is contingent on the quality of governance. More specifically, we find that the informativeness of risk disclosures on BCRs is higher in banks with larger board size, greater independence, higher government ownership, and better *Shariah* supervisory board, but lower in banks with greater block ownership, higher foreign ownership and the presence of CEO duality. The results are robust to controlling for a wide range of bank- and country-level variables, alternative risk disclosure measures and estimation techniques, bank- and country-level governance variables, and different types of endogeneities. The interpretations and implications of our results are largely consistent with the expectations of our multi-theoretical framework that incorporates insights from agency, signal, legitimacy, and resource dependence theories.

In the process, we make a number of new contributions to the existing literature. Firstly, the study contributes to the literature by providing first-time evidence on the link between risk disclosures and banks' credit ratings. Specifically, this study adds to the current debate on BCRs quality by offering evidence that suggests that rating agencies appear to indeed incorporate information contained in corporate risk disclosures into their risk assessments. Recently, the International Accounting Standards Board (IASB) issued IFRS 9 to complement the previous IFRS 7, and IAS 32 and 39 along with the Basel Accords (I, II, and III) as a way of improving the extent to which risk is managed, measured and disclosed. Our evidence offers new empirical support for such policy, practice and regulatory reforms. Secondly, the study contributes to the literature by providing first-time evidence on the moderating effect of governance structures (board and ownership structures) on the risk disclosure-credit rating nexus. Prior research suggests that firms with

higher governance quality are more likely to make decisions that maximise shareholders wealth, including committing to increased risk disclosures that can enhance credit ratings and thereby reduce the cost of capital (e.g., Ashbaugh-Skaife et al., 2006; Kuang & Qin, 2013). This study extends this research by examining and providing evidence on the extent to which governance structures can moderate the risk disclosure–BCRs nexus. Thirdly, this study extends current understanding of the influence of risk disclosures in developing countries with specific focus on MENA countries by demonstrating why and how governance practices drive a number of bank-level outcomes, especially risk disclosure and BCRs.

Observably, the current study has an important policy, practitioner, standards-setting, and regulatory implications in emerging markets, especially for banks, as well as countries in other emerging markets that are expecting or currently pursuing accounting, governance, and risk disclosure reforms. Evidence of increasing informativeness of risk disclosures suggests that efforts by banks, regulatory bodies, standard-setters and regulators to improve risk disclosure have had some positive impact on BCRs. However, given the wide variations in the levels of transparency regarding bank risk exposures that have been observed, greater monitoring and enforcement from central bankers, standard-setters, bondholders, regulatory authorities and central governments will be required to improve risk disclosure practices further.

Finally, and although our evidence is robust, its limitations need to be explicitly acknowledged. First like all archival studies, the risk disclosure, credit rating, and governance variables and measures employed may or may not reflect actual practice. Future studies may be able to offer new insights by conducting interviews and using in-depth case studies. Second, the governance variables used could be expanded to include others, such as board meetings and institutional shareholders. Third, future studies may be able to improve on our findings by employing alternative BCRs provided by other rating agencies, such as Moody's and S&P.

DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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REFERENCES

Abdallah, A. A. N., Hassan, M. K., & McClelland, P. L. (2015). Islamic financial institutions, corporate governance, and corporate risk disclosure in gulf cooperation council countries. *Journal of Multinational Financial Management*, *31*, 63–82.

Abedifar, P., Giudici, P., & Hashem, S. Q. (2017). Heterogeneous market structure and systemic risk: Evidence from dual banking systems. *Journal of Financial Stability*, *33*, 96–119.

Al-Hadi, A., Hasan, M. M., & Habib, A. (2016). Risk committee, firm life cycle, and market risk disclosures. *Corporate Governance: An International Review*, *24*(2), 145–170.

Al-Hadi, A., Hasan, M. M., Taylor, G., Hossain, M., & Richardson, G. (2017). Market risk disclosures and investment efficiency: International evidence from the Gulf Cooperation Council financial firms. *Journal of International Financial Management & Accounting*, *28*(3), 349–393.

Al-Hadi, A., Taylor, G., & Al-Yahyaee, K. H. (2016). Ruling family political connections and risk reporting: Evidence from the GCC. *The International Journal of Accounting*, *51*(4), 504–524.

Al-Maghzom, A., Hussainey, K., & Aly, D. (2016a). The level of risk disclosure in listed banks: Evidence from Saudi Arabia. *Corporate Ownership and Control*, *14*(1), 175–194.

Al-Maghzom, A., Hussainey, K., & Aly, D. A. (2016b). Value relevance of voluntary risk disclosure levels: Evidence from Saudi banks. *Accounting & Taxation*, *8*(1), 1–25.

Alnabsha, A., Abdou, H. A., Ntim, C. G., & Elamer, A. A. (2018). Corporate boards, ownership structures and corporate disclosures: Evidence from a developing country. *Journal of Applied Accounting Research*, *19*(1), 20–41.

Alshbili, I., Elamer, A. A., & Beddewela, E. (2018). Ownership types, corporate governance and corporate social responsibility disclosures: Empirical evidence from a developing country. *Accounting Research Journal*, *33*, 148–166.

Aman, H., & Nguyen, P. (2013). Does good governance matter to debtholders? Evidence from the credit ratings of Japanese firms. *Research in International Business and Finance*, *29*, 14–34.

Amico, A. (2014). Corporate governance enforcement in the Middle East and North Africa: Evidence and priorities. OECD Corporate Governance. (Working Papers, No. 15). OECD Publishing. https://doi.org/10.1787/5jxws6scxg7c-en

Armstrong, C. S., Guay, W. R., & Weber, J. P. (2010). The role of information and financial reporting in corporate governance and debt contracting. *Journal of Accounting and Economics*, *50* (2–3), 179–234.

Ashbaugh-Skaife, H., Collins, D. W., & LaFond, R. (2006). The effects of corporate governance on firms' credit ratings. *Journal of Accounting and Economics*, *42*(1), 203–243.

Ashraf, D., Rizwan, M. S., & L'Huillier, B. (2016). A net stable funding ratio for Islamic banks and its impact on financial stability: An international investigation. *Journal of Financial Stability*, *25*, 47–57.

Aysan, A. F., & Ozturk, H. (2018). Does Islamic banking offer a natural hedge for business cycles? Evidence from a dual banking system. *Journal of Financial Stability*, *36*, 22–38.

Barakat, A., & Hussainey, K. (2013). Bank governance, regulation, supervision, and risk reporting: Evidence from operational risk disclosures in European banks. *International Review of Financial Analysis*, *30*, 254–273.

Basel Committee on Banking Supervision. (2006). *International convergence of capital measurement and capital standards*. Basel, Switzerland: Basel Committee on Banking Supervision BIS.

Basel Committee on Banking Supervision. (2015a). *Corporate governance principles for banks*. Basel, Switzerland: Basel Committee on Banking Supervision BIS.

Basel Committee on Banking Supervision. (2015b). *Revised pillar 3 disclosure requirements*. Basel, Switzerland: Basel Committee on Banking Supervision BIS.

Beattie, V., McInnes, B., & Fearnley, S. (2004). A methodology for analysing and evaluating narratives in annual reports: A comprehensive descriptive profile and metrics for disclosure quality attributes. *Accounting Forum*, *28*(3), 205–236.

Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: Business model, efficiency and stability. *Journal of Banking & Finance*, *37*(2), 433–447.

Beiner, S., Drobetz, W., Schmid, M. M., & Zimmermann, H. (2006). An integrated framework of corporate governance and firm valuation. *European Financial Management*, *12*(2), 249–283.

Beisland, L. A., Mersland, R., & Randøy, T. (2014). The Association between microfinance rating scores and corporate governance: A global survey. *International Review of Financial Analysis*, *35*, 268–280.

Beltratti, A., & Stulz, R. M. (2012). The credit crisis around the globe: Why did some banks perform better? *Journal of Financial Economics*, *105*(1), 1–17.

Bhojraj, S., & Sengupta, P. (2003). Effect of corporate governance on bond ratings and yields: The role of institutional investors and outside directors. *Journal of Business*, *76*(3), 455–475.

Bikker, J. A., & Vervliet, T. M. (2018). Bank profitability and risk-taking under low interest rates. *International Journal of Finance and Economics*, *23*(1), 3–18.

Bitar, M., Hassan, M. K., & Walker, T. (2017). Political systems and the financial soundness of Islamic banks. *Journal of Financial Stability*, *31*, 18–44.

Borisova, G., Fotak, V., Holland, K., & Megginson, W. L. (2015). Government ownership and the cost of debt: Evidence from government investments in publicly traded firms. *Journal of Financial Economics*, *118*(1), 168–191.

Bradley, M., & Chen, D. (2011). Corporate governance and the cost of debt: Evidence from director limited liability and indemnification provisions. *Journal of Corporate Finance*, *17*(1), 83–107.

Bushman, R. M., Piotroski, J. D., & Smith, A. J. (2004). What determines corporate transparency? *Journal of Accounting Research*, *42*(2), 207–252.

Campbell, J. L., Chen, H., Dhaliwal, D. S., Lu, H. M., & Steele, L. B. (2014). The information content of mandatory risk factor disclosures in corporate filings. *Review of Accounting Studies*, *19* (1), 396–455.

Cavallo, E., Powell, A., & Rigobon, R. (2013). Do credit rating agencies add value? Evidence from the sovereign rating business. *International Journal of Finance and Economics*, *18*(3), 240–265.

Chan, A. L.-C., Hsu, A. W.-h., & Lee, E. (2013). Does mandatory IFRS adoption affect the credit ratings of foreign firms cross-listed in the US? *Accounting Horizons*, *27*(3), 491–510.

Chapra, M.U. & Ahmed, H. (2002). Corporate governance in Islamic financial institutions. Islamic Development Bank, Islamic Research and Training Institute, Periodical Document No. 6.

Cheng, M., & Subramanyam, K. (2008). Analyst following and credit ratings. *Contemporary Accounting Research*, *25*(4), 1007–1044.

Choi, S., & Hasan, I. (2005). Ownership, governance, and bank performance: Korean experience. *Financial Markets, Institutions & Instruments*, *14*(4), 215–242.

Coles, J. L., Daniel, N. D., & Naveen, L. (2008). Boards: Does one size fit all? *Journal of Financial Economics*, *87*(2), 329–356.

Conyon, M. J., & Peck, S. I. (1998). Board size and corporate performance: Evidence from European countries. *The European Journal of Finance*, *4*(3), 291–304.

DeBoskey, D. G., & Gillett, P. R. (2013). The impact of multi-dimensional corporate transparency on us firms' credit ratings and cost of capital. *Review of Quantitative Finance and Accounting*, *40*(1), 101–134.

Dalton, D. R., & Dalton, C. M. (2011). Integration of micro and macro studies in governance research: CEO duality, board composition, and financial performance, *37*(2), 404–411.

Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: Some international evidence. *World Bank Economic Review*, *13*(2), 379–408.

Dhaliwal, D. S., Li, O. Z., Tsang, A., & Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review*, *86*(1), 59–100.

Duff, A., & Einig, S. (2009). Credit ratings quality: The perceptions of market participants and other interested parties. *The British Accounting Review*, *41*(3), 141–153.

Elamer, A. A., AlHares, A., Ntim, C. G., & Benyazid, I. (2018). The corporate governance–risk-taking nexus: Evidence from insurance companies. *International Journal of Ethics and Systems*, *34* (4), 493–509.

Elamer, A. A., Ntim, C. G., & Abdou, H. A. (2017). Islamic governance, national governance, and bank risk management and disclosure in MENA countries. *Business & Society*, *59*, 914–955.

Elamer, A. A., Ntim, C. G., Abdou, H. A., & Pyke, C. (2019). Sharia supervisory boards, governance structures and operational risk disclosures: Evidence from Islamic banks in MENA countries. *Global Finance Journal*, 100488.

Elamer, A. A., Ntim, C. G., Abdou, H. A., Zalata, A. M., & Elmagrhi, M. (2019). The impact of multi-layer governance on bank risk disclosure in emerging markets: The case of Middle East and North Africa. *Accounting Forum*, *43*(2), 246–281.

Elbannan, M. A., & Elbannan, M. A. (2015). Economic consequences of bank disclosure in the financial statements before and during the financial crisis: Evidence from Egypt. *Journal of Accounting, Auditing & Finance*, *30*(2), 181–217.

Elghuweel, M. I., Ntim, C. G., Opong, K. K., & Avison, L. (2017). Corporate governance, Islamic governance and earnings management in Oman: A new empirical insights from a behavioural theoretical framework. *Journal of Accounting in Emerging Economies*, *7*(2), 190–224.

Elshandidy, T., Fraser, I., & Hussainey, K. (2014). What drives mandatory and voluntary risk reporting variations across Germany, UKand US? *The British Accounting Review*, *47*(4), 376–394.

Elshandidy, T., & Neri, L. (2015). Corporate governance, risk disclosure practices, and market liquidity: Comparative evidence from the UKand Italy. *Corporate Governance: An International Review*, *23*(4), 331–356.

Elshandidy, T., & Shrives, P. J. (2016). Environmental incentives for and usefulness of textual risk reporting: Evidence from Germany. *The International Journal of Accounting*, *51*(4), 464–486.

Elshandidy, T., Shrives, P. J., Bamber, M., & Abraham, S. (2018). Risk reporting: A review of the literature and implications for future research. *Journal of Accounting Literature*, *40*, 54–82.

Elzahar, H., & Hussainey, K. (2012). Determinants of narrative risk disclosures in UKinterim reports. *The Journal of Risk Finance*, *13*(2), 133–147.

Ernst & Young. (2012). *World Islamic Banking Competitiveness Report 2013 Growing beyond: DNA of successful transformation*. UK: Ernst and Young. http://www.mifc.com/index.php?rp=ey_world_islamic_banking_competi.

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics*, *26*(2), 301–325.

Filzen, J. J. (2015). The information content of risk factor disclosures in quarterly reports. *Accounting Horizons*, *29*(4), 887–916.

Fitch Ratings. (2004). Credit policy special report, evaluating corporate governance: The bondholders' perspective. New York. Retrieved from http://www.unece.org/fileadmin/DAM/ie/wp8/documents/corpgov/olson_corpgov.pdf

Fitch Ratings. (2015). International issuer and credit rating scales. New York. Retrieved from https://www.fitchratings.com/site/fitch-home/definitions/internationalratings

Grassa, R. (2015). Corporate governance and credit rating in Islamic banks: Does *Shariah* governance matters? *Journal of Management and Governance*, *20*, 1–32.

Greco, G. (2012). The management's reaction to new mandatory risk disclosure: A longitudinal study on Italian listed companies. *Corporate Communications: An International Journal*, *17*(2), 113–137.

Grove, H., Patelli, L., Victoravich, L. M., & Xu, P. (2011). Corporate governance and performance in the wake of the financial crisis: Evidence from US commercial banks. *Corporate Governance: An International Review*, *19*(5), 418–436.

Hasan, Z. (2011). Shariah governance in Islamic financial institutions in Malaysia, GCC countries and the UK. (doctoral thesis). Retrieved from http://etheses.dur.ac.uk/810/

Hassan, M. K., & Aliyu, S. (2018). A contemporary survey of islamic banking literature. *Journal of Financial Stability*, *34*, 12–43.

He, G. (2018). Credit ratings and managerial voluntary disclosures. *The Financial Review*, *53*(2), 337–378.

Healy, P. M., & Palepu, K. G. (1993). The effect of firms' financial disclosure strategies on stock prices. *Accounting Horizons*, *7*(1), 1.

Healy, P. M., & Palepu, K. G. (1995). The challenges of investor communication The case of CUC International, Inc. *Journal of Financial Economics*, *38*(2), 111–140.

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, *31*(1–3), 405–440.

Heflin, F., Shaw, K. W., & Wild, J. J. (2011). Credit ratings and disclosure channels. *Research in Accounting Regulation*, *23*(1), 20–33.

Heinle, M. S., & Smith, K. C. (2017). A theory of risk disclosure. *Review of Accounting Studies*, *22*(4), 1459–1491.

Hertig, G. (2006). Basel II and fostering the disclosure of banks' internal credit ratings. *European Business Organization Law Review*, *7*, 625–646.

Hope, O. K., Hu, D., & Lu, H. (2016). The benefits of specific risk-factor disclosures. *Review of Accounting Studies*, *21*(4), 1005–1045.

Hovakimian, A.G., A. Kayhan, & S. Titman, 2010. Credit rating targets. (Working paper), University of Texas at Austin.

Iannotta, G., Nocera, G., & Resti, A. (2013). Do investors care about credit ratings? An analysis through the cycle. *Journal of Financial Stability*, *9*(4), 545–555.

Iatridis, G. (2008). Accounting disclosure and firms' financial attributes: Evidence from the UKstock market. *International Review of Financial Analysis*, *17*(2), 219–241.

Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance*, *48*(3), 831–880.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360.

Jorion, P., Shi, C., & Zhang, S. (2009). Tightening credit standards: The role of accounting quality. *Review of Accounting Studies*, *14*(1), 123–160.

Kaufmann, D. Kraay, A. & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues. (World Bank Policy Research Working Paper No. 5430). Retrieved from http://ssrn.com/abstract=1682130, 1–28.

Kirkpatrick, G. (2009). The corporate governance lessons from the financial crisis. *OECD Journal: Financial Market Trends*, *2009*(1), 61–87.

Kisgen, D. J. (2006). Credit ratings and capital structure. *The Journal of Finance*, *61*(3), 1035–1072.

Kisgen, D. J. (2009). Do firms target credit ratings or leverage levels? *Journal of Financial and Quantitative Analysis*, *44*(6), 1323–1344.

Koldertsova, A. (2011). The second corporate governance wave in the Middle East and North Africa. *OECD Journal: Financial Market Trends*, *2010*(2), 219–226.

Kravet, T., & Muslu, V. (2013). Textual risk disclosures and investors' risk perceptions. *Review of Accounting Studies*, *18*(4), 1088–1122.

Krippendorff, K. (2004). Reliability in content analysis. *Human Communication Research*, *30*(3), 411–433.

Kuang, Y. F., & Qin, B. (2013). Credit ratings and CEO risk taking incentives. *Contemporary Accounting Research*, *30*(4), 1524–1559.

Kusi, B. A., & Opoku-Mensah, M. (2018). Does credit information sharing affect funding cost of banks? Evidence from African banks. *International Journal of Finance and Economics*, *23*(1), 19–28.

Lau, S. T., Shrestha, K., & Yu, J. (2016). Corporate governance and the information content of earnings announcements: A cross-country analysis. *Contemporary Accounting Research*, *33*(3), 1238–1266.

Li, Y., Armstrong, A., & Clarke, A. (2014). Relationships of corporate governance mechanisms and financial performance in Islamic banks: A Meta-analysis. *Journal of Business Systems, Governance & Ethics*, *9*(1), 50–63.

Liang, Q., Xu, P., & Jiraporn, P. (2013). Board characteristics and Chinese bank performance. *Journal of Banking & Finance*, *37*(8), 2953–2968.

Li, Y., He, J., & Xiao, M. (2019). Risk disclosure in annual reports and corporate investment efficiency. *International Review of Economics & Finance*, *63*, 138–151.

Lin, X., & Zhang, Y. (2009). Bank ownership reform and bank performance in China. *Journal of Banking & Finance*, *33*(1), 20–29.

Lin, Z., Liu, M., & Noronha, C. (2016). The impact of corporate governance on informative earnings management in the Chinese market. *Abacus*, *52*(3), 568–609.

Liu, Y., Padgett, C., & Varotto, S. (2017). Corporate governance, bank mergers and executive compensation. *International Journal of Finance and Economics*, *22*(1), 12–29.

Lobo, G. J., Paugam, L., Stolowy, H., & Astolfi, P. (2017). The effect of business and financial market cycles on credit ratings: Evidence from the last two decades. *Abacus*, *53*(1), 59–93.

Maffei, M., Aria, M., Fiondella, C., Spanò, R., & Zagaria, C. (2014). (Un) useful risk disclosure: Explanations from the Italian banks. *Managerial Auditing Journal*, *29*(7), 621–648.

Mansi, S., Maxwell, W., & Miller, D. (2011). Analyst forecast characteristics and the cost of debt. *Review of Accounting Studies*, *16*, 116–142.

Marston, C. L., & Shrives, P. J. (1991). The use of disclosure indices in accounting research: A review article. *The British Accounting Review*, *23*(3), 195–210.

Martín-Oliver, A., Ruano, S., & Salas-Fumás, V. (2017). The fall of Spanish cajas: Lessons of ownership and governance for banks. *Journal of Financial Stability*, *33*, 244–260.

Mokhtar, E., & Mellett, H. (2013). Competition, corporate governance, ownership structure and risk reporting. *Managerial Auditing Journal*, *28*(9), 838–865.

Montes, G. C., Oliveira, D. S., & Mendonça, H. F. (2016). Sovereign credit ratings in developing economies: New empirical assessment. *International Journal of Finance and Economics*, *21*(4), 382–397.

Moreira, F., & Zhao, S. (2018). Do credit ratings affect spread and return? A study of structured finance products. *International Journal of Finance and Economics*, *23*(2), 205–217.

Nguyen, B. D., & Nielsen, K. M. (2010). The value of independent directors: Evidence from sudden deaths. *Journal of Financial Economics*, *98*(3), 550–567.

Nicholson, G. J., & Kiel, G. C. (2007). Can directors impact performance? A case-based test of three theories of corporate governance. *Corporate Governance: An International Review*, *15*(4), 585–608.

Ntim, C. G., Lindop, S., & Thomas, D. A. (2013). Corporate governance and risk reporting in South Africa: A study of corporate risk disclosures in the pre-and post-2007/2008 global financial crisis periods. *International Review of Financial Analysis*, *30*, 363–383.

Ntim, C. G., Opong, K. K., & Danbolt, J. (2015). Board size, corporate regulations and firm valuation in an emerging market: A simultaneous equation approach. *International Review of Applied Economics*, *29*(2), 194–220.

Ntim, C. G., & Soobaroyen, T. (2013). Corporate governance and performance in socially responsible corporations: New empirical insights from a Neo Institutional framework. *Corporate Governance: An International Review*, *21*(5), 468–494.

O'Sullivan, J., Mamun, A., & Hassan, M. K. (2015). The relationship between board characteristics and performance of bank holding companies: Before and during the financial crisis. *Journal of Economics and Finance*, *40*, 438–471.

Ozturk, H. (2014). Three essays in Turkish banking: Development banks, Islamic banks and commercial banks. (doctoral thesis). Retrieved from https://lra.le.ac.uk/bitstream/2381/31399/1/2014ozturkhphd.pdf

Pfeffer, J., & Salancik, G. R. (2003). *The external control of organizations: A resource dependence perspective*. Stanford, California: Stanford University Press.

Rajgopal, S. (1999). Early evidence on the informativeness of the SEC's market risk disclosures: The case of commodity price risk exposure of oil and gas producers. *Accounting Review*, *74*(3), 251–280.

Safieddine, A. (2009). Islamic financial institutions and corporate governance: New insights for agency theory. *Corporate Governance: An International Review*, *17*(2), 142–158.

Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly*, *23*(2), 224–253.

Salvador, C., Pastor, J. M., & de Guevara, J. F. (2014). Impact of the subprime crisis on bank ratings: The effect of the hardening of rating policies and worsening of solvency. *Journal of Financial Stability*, *11*, 13–31.

Samaha, K., Dahawy, K., Hussainey, K., & Stapleton, P. (2012). The extent of corporate governance disclosure and its determinants in a developing market: The case of Egypt. *Advances in Accounting*, *28*(1), 168–178.

Samaha, K., Khlif, H., & Hussainey, K. (2015). The impact of board and audit committee characteristics on voluntary disclosure: A meta-analysis. *Journal of International Accounting, Auditing and Taxation*, *24*, 13–28.

Sengupta, P. (1998). Corporate disclosure quality and the cost of debt. *Accounting Review*, *73*(4), 459–474.

Shen, C.-H., Huang, Y.-L., & Hasan, I. (2012). Asymmetric benchmarking in bank credit rating. *Journal of International Financial Markets Institutions and Money*, *22*(1), 171–193.

Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *Journal of Finance*, *52*(2), 737–783.

Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, *87*(3), 355–374.

Standard & Poor's, 2009. Corporate ratings criteria. Retrieved from http://www.standardandpoors.com.

Switzer, L. N., & Wang, J. (2017). Institutional investment horizon, the information environment, and firm credit risk. *Journal of Financial Stability*, *29*, 57–71.

Tan, Y., Zeng, C. C., & Elshandidy, T. (2017). Risk disclosures, international orientation, and share price informativeness: Evidence from China. *Journal of International Accounting, Auditing and Taxation*, *29*, 81–102.

Tourigny, L., Dougan, W. L., Washbush, J., & Clements, C. (2003). Explaining executive integrity: Governance, charisma, personality and agency. *Management Decision*, *41*(10), 1035–1049.

Tran, D. H. (2014). Multiple corporate governance attributes and the cost of capital – Evidence from Germany. *The British Accounting Review*, *46*(2), 179–197.

Verrecchia, R. (1983). Discretionary disclosure. *Journal of Accounting and Economics*, *5*, 179–194.

Walker, S. D. (2009), A Review of corporate governance in UK banks and other financial industry entities, final recommendations. Retrieved from http://www.hm-treasury.gov.uk/d/walker_review_261109.pdf

Werner, S., Tosi, H. L., & Gomez-Mejia, L. (2005). Organizational governance and employee pay: How ownership structure

affects the firm's compensation strategy. *Strategic Management Journal*, *26*(4), 377–384.

World Bank. (2009). *Policy brief on improving corporate governance of banks in the Middle East and North Africa*. Washington, DC: World Bank Retrieved from http://documents.worldbank.org/curated/en/2009/11/14499341/policy-brief-improving-corporate-governance-banks-middle-east-north-africa

World Bank. (2015). Worldwide Governance Indicators. Washington, DC: World Bank. Retrieved from: https://ikb/home/a/baae005/Downloads/ijfe1849.pdf

Yamori, N., Harimaya, K., & Tomimura, K. (2017). Corporate governance structure and efficiencies of cooperative banks. *International Journal of Finance and Economics*, *22*(4), 368–378.

Young, M. N., Peng, M. W., Ahlstrom, D., Bruton, G. D., & Jiang, Y. (2008). Corporate governance in emerging economies: A review of the principal–principal perspective. *Journal of Management Studies*, *45*(1), 196–220.

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APPENDIX

Risk type	Risk disclosure index (RDI)
	Financial risk disclosure
(i) Credit	1-Exposure to credit risk and how they arise.
	2-Objectives, policies and processes for managing the credit risk.
	3-Method of measuring credit risk exposure.
	4-Adequately describes how credit risk management occurs including providing a clear linkage between the quantitative data and qualitative description.
	5-Changes in exposure to credit risk, measurement of risk, and objectives, policies and processes to manage the credit risk from the previous period.
	6-Amount of regulatory capital for credit risk.
	7-Information about credit quality of financial assets that are not past due or impaired.
	8-Renegotiated financial assets.
	9-Aging schedule for past due amounts.
	10-Impairment methods and inputs disclosed.
	11-Summary quantitative data about exposure to credit risk at the reporting date.
	12-Maximum credit exposure by currency.
	13-Maximum credit exposure by geography.
	14-Maximum credit exposure by economic activity.
	15-Disaggregated maximum credit risk exposure including derivatives and off-balance sheet items.
	16-Renegotiated loans for troubled borrowers.
	17-Risk of a counterparty.
	18-Credit risk concentrations.
	19-Derivatives.
	20-Off-balance sheet and joint venture structures.
	21-Credit risk transfer/mitigation/hedging techniques.
	22-Collateral.
	23-Disclosures to help users understand credit risk.

(Continues)

Risk type	Risk disclosure index (RDI)
(ii) Liquidity	24-Exposure to liquidity risk and how they arise.
	25-Objectives, policies and processes for managing the liquidity risk.
	26-Methods used to measure liquidity risk.
	27-Changes in exposure to liquidity risk, measurement of risk, and objectives, policies and processes to manage the liquidity risk from the previous period.
	28-Contractual undiscounted cash flows.
	29-Maturity analysis of non-derivative liabilities.
	30-Maturity analysis of derivative liabilities.
	31-Maturity analysis of off-balance sheet commitments and other financial instruments without contractually stipulated maturity.
	32-Maturity analysis of the financial assets.
	33-Expected maturity analysis.
	34-Derivative and trading liabilities Treatment.
	35-Liquidity risk transfer/mitigation/hedging techniques.
	36-Liquidity buffers sources and volume.
	37-Sensitivity analysis.
	38-Financing facilities.
	39-Counterparty concentration profile.
	40-Disclosures to help users understand liquidity risk.
(iii) Market	41-Objectives, policies, processes, and Strategies of market risk management.
	42-Structure and organization of the market risk management function.
	43-Instruments traded types.
	44-Interest rate risk.
	45-Equity risk.
	46-Currency risk.
	47-Commodities risk
	48-Market risk transfer/mitigation/hedging techniques.
	49-Linkage with credit risk.
	50-Amount of regulatory capital for market risk.
	51-VAR (value-at-risk).
	52-VAR limitations.
	53-Stress testing.
	54-Stress VAR.
	55-Back-testing.
	56-Disclosures to help users understand market risk.
(iv) Capital	57-Capital management.
	58-Capital measurement.
	59-Risk-weighted assets.
	60-Tier 1.
	61-Tier 2.
	Non-financial risk disclosure
(v) Operational	62-Amount of regulatory capital for operational risk.
	63-Regulatory capital for operational risk Measurement approach.
	64-Operational risk management Strategies and processes.

Risk type	Risk disclosure index (RDI)
	65-The operational risk management function structure and organisation.
	66-Scope and nature of the operational risk reporting system
	67-Operational risk transfer/mitigation/hedging techniques.
	68-Operational value-at-risk.
	69-Internal audit function/internal control system.
	70-Key risk indicators/early warning systems.
	71-Self-assessment techniques.
	72-Stress tests/ Scorecard models/scenario analyses.
	73-Operational risk event databases.
	74-Legal risks.
	75-Additional information on risk exposure and management.
	76-Technology/information technology.
	77-Compliance.
	78-Marketing/customer satisfaction/boycott.
	79-Competition/proprietary/copyright.
	80-Personnel.
	81-Integrity/management and employee fraud.
	82-Business ethics/corruption.
	83-Disclosures to help users understand operational risk.
(vi) Strategic	84-Sovereign/politics.
	85-Performance measurement.
	86-Regulation.
	87-Taxation.
	88-Macroeconomic trends.
	89-Natural disasters/terrorism.
	90-GDP growth/market demand/aggregate demand.
	91-Intellectual property rights.
	92-New alliances, joint ventures and acquisitions.
	93-Management of growth.
	94-Reputation/goodwill/image/brand name.
	95-Strategy.
	96-Disclosures to help users understand strategic risk.
Total	96 Risk disclosure items
Procedure of scoring for un-weighted index	
0: Risk item not disclosed by bank.	
1: Risk item disclosed by bank.	
Procedure of scoring for weighted index	
0: Risk item not disclosed by bank.	
1: Risk item disclosed by bank contains past, future, good, bad and/or qualitative information.	
2: Risk item disclosed by bank contains past, future, good, bad, qualitative and/or quantitative information.	